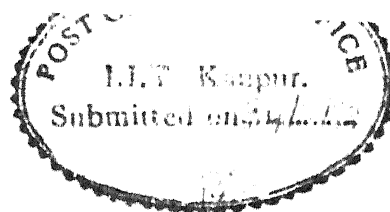


**COGNITIVE COMPLEXITY, NATURE OF OUTCOME AND
PERCEIVED PARENTING, AS DETERMINANTS
OF ATTRIBUTION**

A Thesis Submitted
In Partial Fulfilment of the Requirements
for the Degree of
DOCTOR OF PHILOSOPHY

By
PREMLATA SRIVASTAVA

to the
**DEPARTMENT OF HUMANITIES AND SOCIAL SCIENCES
INDIAN INSTITUTE OF TECHNOLOGY, KANPUR
FEBRUARY, 1983**



CERTIFICATE

This is to certify that the thesis "Cognitive Complexity, Nature of Outcome and Perceived Parenting as Determinants of Attribution" submitted by Ms. Premlata Srivastava to the Indian Institute of Technology, Kanpur in partial fulfillment of the requirements for the degree of Doctor of Philosophy is a record of bonafide research work carried out by her under my supervision and guidance for last three years. The results embodied in the thesis have not been submitted to any other University or Institute for the award of any degree or diploma.

Kanpur

February, 1983

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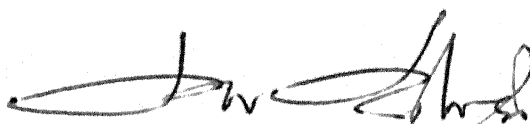
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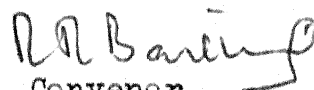
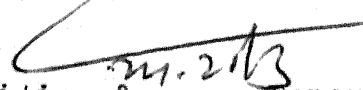
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SYNOPSIS

A thesis submitted in partial fulfilment of the requirements for the degree of Doctor of Philosophy by Premlata Srivastava to the Department of Humanities and Social Sciences, Indian Institute of Technology, Kanpur.

What determines attribution of behaviors and events to either internal or external factors has been of major concern to social psychologists because of the theoretical and practical implications of this question. Researchers have been mostly engaged in identifying the effects of situational and information-related variables, and to some extent, of motivational- personal variables on attribution. However, there is a paucity of research on cognitive- personal determinants which may be important from the point of view of information- processing involved in the attribution process. Moreover, it is not known whether cognitive- personal factors affect attribution independently or in conjunction with situational variables or not.

Therefore, the present research examined the role of a cognitive- personal variable, namely, cognitive- complexity in causal attribution taking into consideration two situational variables, namely, the nature of the outcome and the role of the attributor; two demographic variables, namely, the age of the attributor and the sex of the attributor, and a socialization variable, namely, Perceived Parenting.

Cognitive complexity has been referred to as an index of the way individuals combine and process information received from outside and that generated internally. Considering the theoretical framework of Schroder, Driver and Streufert (1967) it was expected that the tendency to make extreme (either internal or external) attributions would be less in those high on cognitive complexity than in those low on cognitive complexity. Based on prior research, predictions regarding the effects of other variables on internal attribution (the dependent variable) were made.

The method adopted in most of the investigations was the following. Subjects were administered a test of cognitive complexity followed by a paper and pencil measure of attribution. They were then classified into high- and low-complexity groups, and the attribution scores of these two groups were compared. In one study (study III) subjects were first classified into high- and low-complexity groups and were then assigned to different experimental conditions. In the study which examined the relationship between perceived parenting and attribution, in addition to the measures of attribution and cognitive complexity a questionnaire for measuring perceived parenting was also administered.

Cognitive complexity was measured mainly with the help of a modified version of Scott's (1962) "Object Sorting Test". Attribution was measured with the help of (1) The Attribution Scale (constructed by the author specifically for the present research) and (2) The I.A.R. Scale (Intellectual Achievement Responsibility Scale) (Crandall, Katkovsky and Crandall, 1965). The P.P.Q. (Perceived Parenting Questionnaire) (MacDonald, 1971a) was used for measuring Perceived Parenting.

Six investigations were conducted, three involving college adults (between 17 and 19 years of age) and three involving school-going pre-adolescents (between 11 and 13 years of age). One of the latter studies examined the relationship between perceived parenting and attribution.

The findings of these investigations indicated, first, that among all independent variables, it was the nature of the outcome that affected attribution in the most unequivocal way. In all studies internal attribution was higher for positive outcomes than for negative outcomes. This finding was explained in terms of a "positivity bias" (Skinner, 1971; Frieze and Weiner, 1971). That is, the higher internal attribution for positive outcomes was explained on the basis of the hypothesis that people, for cognitive reasons, pay more attention to positive information when attributing outcomes internally.

Two propositions that have been advanced to explain the positivity bias were examined: (a) the outcome expectation hypothesis, which proposes that positive outcomes are attributed more internally because they are expected more frequently than negative outcomes (Miller and Ross, 1975) and that expected outcomes are attributed internally (Feather and Simon, 1971a, 1971b) and (b) the perception of contingency hypothesis, which proposes that, positive outcomes are attributed more internally because they are perceived as being contingent or dependent upon internal factors (Miller and Ross, 1975) due to their greater desirability (Jenkins and Ward, 1965). It was found that the perception of contingency was a likely basis of the observed positivity bias effect.

Secondly, although there was no main effect of cognitive complexity, it interacted significantly with the nature of the outcome (in the case of pre-adolescents but not in the case of adults). The interaction between cognitive complexity and the nature of the outcome demonstrated that those high on cognitive complexity took significantly greater responsibility for failure compared to those low on cognitive complexity. The two groups did not differ with regard to the attribution for positive outcomes. In addition, the difference between positive

and negative outcome attribution of high- complexity subjects was smaller than that of those low on cognitive complexity.

The absence of a main effect of cognitive complexity (in both adults and pre-adolescents) in conjunction with the interaction between cognitive complexity and the nature of the outcome (obtained only, in the case of pre-adolescents) can be explained with the help of "Interactive complexity Theory" (Streufert and Streufert, 1978). This theory "makes predictions of information processing on the basis of complexity of the individual and the characteristics of the environment".

(page 87)

The information provided for processing is considered to be a characteristic of the environment (Streufert and Streufert, 1978). The proponents of the "Interactive Complexity Theory" proposed that an optimum level of complexity would be required in the information provided for processing in order for the high-and low-complexity differences to emerge prominently. The complexity of information in the view of these authors consists of (a) information load (that is, the quantity of information per unit time), (b) efficacy (that is, the success component of information) and (c) noxiousity (that is, the failure component of information).

In the present context, the general absence of a prominent effect of cognitive complexity can be explained in terms of an overall lack of an optimal level of complexity in information provided for attribution. However, certain reservations can be made in this connection. It seems likely that among the three components of complexity of information (that is, information load, Eucity and nexity) the "information load" was of an optimum level for pre-adolescents but not for adults. Therefore, cognitive complexity modified the effect of the nature of the outcome only among pre-adolescents.

The reason why adults and pre-adolescents may require different levels of optimal "information load" to function could be the nature of certain social experiences individuals belonging to the two age groups go through.

Independently of complexity of information, the interaction between cognitive complexity and the nature of the outcome can also be explained in terms of the differences in self-esteem (Leventhal and Singer, 1964) in high and low-complexity individuals and their ability to think flexibly by combining contradictory bits of information (Rosenkrantz and Crockett 1965).

With regard to the self-esteem explanation, it is reported that high-cognitive complexity individuals show

lower self-esteem than those low on cognitive complexity (Leventhal and Singer, 1964). Self-esteem is found to be related to attribution. It is reported (Fitch 1970) that, high-self-esteem individuals take more personal credit for success (make higher internal attribution) and less personal blame for failure (make lower internal attribution). Individuals low on self-esteem show an opposite attributional pattern, that is, they deny responsibility for success and assume blame for failure. The self-esteem attribution relationship has been explained in terms of a tendency in high-and low-self-esteem individuals to maintain consistency of their positive and negative self-image respectively. The high self-esteem individuals maintain consistency of their positive self image by assuming personal responsibility for success and blaming themselves less for failure, the low-self-esteem individuals maintain consistency of their negative self-image by doing the opposite.

Considering the inverse relationship between cognitive complexity and self-esteem and the relationship between attribution for positive-negative outcomes and self-esteem, it would be expected that high- complexity individuals will take less credit for success and more blame for failure and low-complexity individuals would show an opposite tendency. The predictions regarding the

relationship between cognitive complexity and attribution were borne out only in the case of low-complexity individuals, therefore the explanation based on self-esteem seems to be only partially tenable in the present set of findings.

The difference between the attribution for positive and negative outcomes made by high-and low-complexity individuals can also be explained with the help of a cognitive mediator, that is, the difference between high and low- complexity individuals in terms of their ability to combine contradictory bits of information. It is suggested that, high- complexity individuals can perceive contradictory bits of information as more compatible compared to low- complexity individuals; hence smaller difference in attribution for positive and negative outcome in the case of the former than in the case of the latter.

The third major feature of the present research was the relationship between perceived parenting and attribution. It was found that positive (that is, accepting) parenting variables were associated with high-internality for positive outcomes, low-internality for negative outcomes and high-internality for negative outcomes. Negative (that is, rejecting) parenting variables were correlated with low- internality for positive outcomes and high-internality for negative outcomes.

The relationship between positive and negative parenting and attribution for positive and negative outcomes can be interpreted in terms of mediation by self-esteem. According to Rehner, Chaille and Rehner (1980) positive parenting (through high self-esteem) will lead to high internality and negative parenting (through low self-esteem) will lead to low internality. Fitch (1970) demonstrated a relationship between self-esteem and attribution. That is, those high on self-esteem showed more internal attribution for positive outcomes and less internal attribution for negative outcomes and those low on self-esteem showed the opposite.

Following these two sets of findings it would be expected that positive parenting (through high self-esteem) would be related to high internality for positive outcomes and low internality for negative outcomes. Negative parenting (through low self-esteem) would be related to low internality for positive outcomes and high internality for negative outcomes. These predictions were supported in the present set of findings. However, a positive relationship between positive parenting (thereby high self-esteem) and high internality for negative outcomes observed

in this study was unexpected. It is suggested that there may be different implicit explanations for high internality for negative outcomes shown by those reporting positive parenting and those reporting negative parenting. While former may indicate low self-derogation, the latter may show a tendency to blame one-self.

Some of the major theoretical, and methodological implications of the present research were discussed.

From a theoretical point of view, this research supported the notion that situational variables (especially the nature of the outcome) are more powerful determinants of attribution than personal variables (Frieze, 1980). This suggests that given information regarding the nature of the outcome and a cognitive-personal variable, more definite predictions about attribution can be made on the basis of the nature of the outcome.

In addition, the findings of these investigations also raise an important issue for developmental research. The present investigations suggest that although there may not be age-differences in the level of the cognitive potential of individuals after the peak of cognitive development is attained, due to certain non-cognitive social experiences, there may be differences in the way individuals at two age levels (for example, adults and pre-adolescents)

approach a social- cognitive task (for instance, attribution of causality). Moreover, this research also suggests that, instead of a generalized kind of conceptualization regarding the relationship between parenting and attribution, it is imperative to consider this relationship in the light of the nature of the outcome.

Methodologically speaking it is apparent that many ambiguities regarding the role of cognitive- personal determinants (for example, cognitive complexity) of attribution can be resolved by introducing complexity of information as an additional dimension. Furthermore, by allowing subjects to show cognitive complexity by both processing and seeking information, and employing behavioural indices of attribution and parenting, a more comprehensive picture of determinants of attribution can be attained.

Certain issues for further research have also been suggested.

CHAPTER 1

INTRODUCTION

The individuals as "naive scientists" (Heider, 1958) attempt at organizing the world in some systematic manner. One such attempt is manifest in answering the "Whys" by assigning causes to behaviors and events. Identifying causes for outcomes and happenings has been described in social psychological literature as "causal attribution" or "attribution of causality".

Causal attribution essentially involves a cognitive act of processing information related to behavior and thereby reaching some causal conclusions. Various authors have described causal attribution in essentially the same way, namely, that individuals impose order on the social world by assigning causality to either the "person" or the "environment." However, there may be subtle differences in the various views of the attribution process.

The origin of attribution theories can be traced back in philosophical writings of Michotte (1963) and insightful observation of the development of human thought process by Piaget (1930). Michotte (1963) suggested that individuals directly and immediately perceive causality in their world. According to Piaget, perception of causality is an essential and vital part of social cognitive development.

What interests the social psychologists is the process of causal analysis, in other words attributional process.

Attribution, according to Heider (1958), may be understood as a process of establishing a link between an event and the underlying conditions. According to Michotte, the distinction between inferring that the locus of causality for behavior is internal to the actor and inferring that it is external to the actor is similar to the distinction between seeing a person as an "origin" and seeing him or her as a "pawn." In other words, the person can be perceived as acting of his/her own accord or as being compelled by situations to act in a particular way. de Charms (1968) suggested that individuals first try to match the effect with underlying dispositions; if such match is not found the effect is attributed to the environment. Jones and Davis (1965) referred to the attribution process as an "attribute-effect linkage". According to these authors, inferring the cause of an act involves pointing out an intention and relating it to some disposition. Since both intentions and dispositions are attributes of the individual, the perception of a link between a particular action and disposition may be called an "attribute-effect-linkage."

Kelley (1967) described attribution as a "perception of co-variation" between the antecedents and the effect.

He suggested that effects or outcomes are attributed to those factors which are present when outcome occurs and do not appear in the absence of outcome.

Rotter (1954) conceptualized causal analysis in a related but different perspective. In Rotter's conceptualization causality assumes the form of a "generalized expectancy of control" which refers to the perception of events either positive or negative as being the consequence of one's own actions and thus under personal control (an internal locus of control) or as being unrelated to one's own behavior and thereby beyond personal control (an external locus of control).

Weiner and his colleagues (Weiner, Frieze, Kukla, Reed, Rest, and Rosenbaum, 1971) dealt with attributions pertaining to the situation of academic outcomes (that is, success and failure) and conceived of attribution as explaining success and/or failure in terms of four causal factors, that is, ability, effort, luck, and task. These authors suggested that causes of success and failure can be best understood in terms of a bi-dimensional classification schema consisting of "internality" and "stability" as two dimensions.

The common thread running through all the views regarding attribution process is that, (a) attribution is

not the same in all situations and (b) individuals essentially distinguish between internal and external factors while attributing causality. Heider called these two factors "person" and "environment" respectively. According to Jones and Davis (1965) these are "dispositional" and "situational" factors. Kelley (1967) considered "person" on the one hand, and, "stimulus" on the other hand, as potential causal factors.

It is clear from the above discussion regarding the nature of the attribution process, that the most important aspect of attribution is to determine whether behavior or events are caused by internal (personal) or external (situational) factors. What determines attribution to either internal or external factors has been a matter of great research interest not only because of its theoretical significance but also because of its practical implications.

It is clear from observations that reactions to behavior differ according to the cause of the behavior, that is, whether the cause is internal or external (Mann and Taylor, 1974; Suls and Mullen, 1981). Weiner et.al.(1971) studied the relevance of attribution in achievement behavior and observed that the reaction to success or failure to a great extent depends upon how they are explained. Moreover, the future course of actions also depends upon these explanations.

Attribution to either internal or external factors has implications for social behavior also. For example, in the context of a helping situation, the donor's reactions to the recipient's need will depend upon which of the two factors is held responsible for the recipient's conditions (Schopler, 1970). In addition, explanations based on either of the two factors, that is, within or beyond personal control also affect the diagnosis of psychological disorders (Batson, Jones and Cochran, 1979) and improvement (Firth and Brewin, 1982) in certain psychotherapeutic situations. The major underlying factor in interpersonal transactions in number of social situations, for instance, family, school and work organizations, also happens to be causal attribution. Therefore, in order to predict and control attribution and thereby behavior, it is vital to study what determines attribution.

A review of attribution literature shows that the determinants of attribution may be classified into the following categories:

- A. Personal-Determinants including
 - (i) Demographic variables
 - (ii) Motivational and Personality Variables
 - (iii) Cognitive- Personal Variables.
- B. Information- related Determinants,
- C. Situational-Determinants,

D. Socialization Determinants.

The factors determining attribution are reviewed below.

I. PERSONAL-DETERMINANTS

Research in the area of personal-determinants of attribution suggests that individuals' beliefs, motives, and other personality characteristics may affect information-search, - processing and the kind of attribution made (Ajzen, 1977; Herzberger and Clore, 1979).

Personal determinants of attribution can be discussed under three subheadings: (i) Demographic variables, (ii) Motivational and Personality Characteristics and (iii) Cognitive- Personal Variables.

(i) Demographic Variables:

Demographic Variables act as correlates rather than direct determinants of attribution. Individuals of particular races, ages and either sex are ascribed certain features which may affect attribution.

(a) Race and Culture:

Cultural differences with regard to attribution are well established (Barnouw, 1973; Fry and Ghosh, 1980; Ryckman, Posen, and Kulberg, 1978). There is a good deal of evidence

to suggest that blacks in general make more external attributions for both success and failure than whites (Friend and Neal, 1972; Lefcourt, 1976; Murray and Mednick, 1975). From the point of view of a belief in locus of control also, blacks are reported to be more external than whites (Rotter, 1966; Lessing, 1969; Scott and Phelan, 1969; Battle and Rotter, 1963; Lefcourt and Ladwig, 1965; Shaw and Uhl, 1971; Strickland, 1972; Zytkeeskee, Strickland and Watson, 1971).

Hsieh, Shybut, Lotsof (1969) found that Anglo-Americans are more internal than either American-born Chinese or Chinese born in Hongkong. In a recent study, it was suggested that oriental countries are more external than Western countries (Chandler, Shama, Wolf and Planchard, 1981). With specific reference to India, Carment (1974) suggested that Indians are less internal than North Americans on certain factors of I-E control, while on other factors they are more internal than the North American subjects. In a more recent cross-cultural comparison Chandler et.al. (1981) found that Indians were less internal than Americans on Achievement dimension of MMCS (Multidimensional Multi-attributational Causality Scale) (Lefcourt, 1978). However, when attributions for success and failure were analyzed separately, Indians were found to be more internal for

success and more external for failures than Americans and Japanese.

In short, data regarding the Indians have been inconclusive. Dyal (1982) explains this situation on the basis of within-culture - heterogeneity. More elaborate research is needed in order to draw definite conclusions regarding attribution in Indian culture.

(b) Age:

With regard to age there is definite evidence to suggest that children are less internal than adults. Attribution of causality has been said to develop from object to person attribution (Ruble, Feldman, Higgins and Karlovac, 1979). With regard to locus of causality it is suggested that judgements of causality may shift from a primarily external/entity orientation in young children to a primarily internal/person orientation in adults (Piaget 1972; Shantz, 1975).

Children may differ from adults with respect to (a) cognitive capacities and/or (b) world view (Ruble, et. al. 1979). Most of the developmental attribution studies are concerned with growth in cognitive capacities and how these affect ways of combining information. Thus, for example, several studies have reported that young children (under 6 years) are unable to use the "discounting principle"

(that is, to assess a number of causes simultaneously and determine their relative importance) (Kelley, 1973) in making causal attributions, though they are able to use information in some systematic way, such as understanding the principle of co-variation (Costanzo, Grunet and Brehm, 1974; Divitto and McArthur, 1978; Karnial and Ross, 1976; Kun, 1977).

Children's views of the world may also change with age. That is, younger children may tend to see events as relatively externally determined. Since with age they become better able to understand the influence of events and thus to view experiences as personally controlled. Consistent with this general hypothesis, several studies have shown a developmental shift from external to internal locus of control (Gruen Korte, and Baun, 1974; Lifshitz, 1973; Ryckman and Malikiosi, 1975).

Much developmental research in the area of attribution of causality has followed approaches suggested by developmental theorists, namely, Piaget (1972) and Shantz (1975). However, little is known regarding age differences in attribution by individuals who have reached mature level (according to Piaget, 1950; and Harvey, Hunt and Schroder, 1961) of cognitive development. In view of a recent developmental theory (Flavell, 1970) which argues for development being a life-long process,

differences in attribution of causality may be expected after the individual has reached the peak of cognitive development.

(c) Sex :

Males and females do not appear to differ from each other in attribution in a simple way. In general, attribution by males and females to internal or external factors depends upon the nature of the outcome. That is, females are found to be less likely to see their success being the result of their ability, but they attribute their failure to lack of ability and bad luck (Bar-Tal and Frieze, 1977; Dweck and Repucci, 1973; Feather, 1969; Berg, Stephan and Dodson, 1981).

With respect to a belief in locus of causality there are conflicting findings. While there are some studies which do not report a sex difference in I-E score (Phares, 1976) others report higher internality in males than females (Feather, 1967 b and 1968). In a similar context two studies have reported sex differences in generalized expectancy of control among Asian Indian males and females; males have been found to be more internal than females (Agrawal and Kumari, 1975; Khanna and Khanna, 1979).

Sex differences in attribution of causality are assumed to result from sex-role socialization (Etaugh and Brown, 1975). Thus it is important to study the specific socialization variables which may be responsible for such development.

In short, it appears that socially disadvantaged cultures and races are more external than socially advantaged ones; attribution changes with age both with respect to the rules employed for processing information and the nature of attribution; and two sexes differ in attribution.

(ii) Motivational and Personality Variables:

Among the motivational variables, need-achievement, Social-Anxiety, and Self-esteem are some of the variables which have received considerable attention.

With respect to need-achievement it is found that those high on achievement motivation appear to be more internal than those low (Kukla, 1972; Bar-Tal and Frieze, 1977; Weiner and Kukla, 1970; Weiner and Potepan, 1970). However, the factors (that is, ability, effort, luck and task) employed to explain the outcome by high and low-achievement subjects depended upon the nature of the outcome.

Social anxiety has been another motivational variable which has been reported to have some effect on attribution. Those with high social anxiety attribute success to internal factors, and failure to external factors to a greater extent compared to those with low social anxiety (Arkin, Appelman and Burger, 1980).

With regard to self esteem, the high-self-esteem individuals attribute success more to internal factors compared to the low-self-esteem individuals (Fitch, 1970; Anes and Felker, 1979). So far as attribution for failure is concerned there are some ambiguities. While Fitch (1970) showed that high self-esteem individuals took less responsibility for failure compared to low-self-esteem individuals, Anes and Felker's study did not show high and low-self-esteem difference in attribution for negative outcomes.

Attribution differences with respect to self-esteem are said to be self-consistent. In addition, it may also be suggested that high self-esteem subjects have higher initial expectancy for success than do low-self-esteem subjects. Therefore, success, is attributed to skill by high self-esteem individuals (Anes and Felker, 1979). However, it is not clear whether the difference in attribution is due to the difference in affective implications of success and failure for high and low self-esteem individuals

or the differences in their initial expectancy.

In addition to the motivational characteristics discussed in the above paragraphs, authoritarianism and locus of control are two such personality variables which have been found to affect the attribution of causality.

Authoritarian and egalitarian subjects were compared in situations involving attributions pertaining to both the self and another person (actor-observer) (Goldberg and Evenbeck, 1976). It was found that authoritarians compared to egalitarians were more internal when they themselves experienced success and others experienced failure. Belief in an internal-external locus of control (Rotter, 1954, 1966) is another factor which by definition would be expected to affect attribution. From Rotter's conceptualization it would follow that individuals who believe in an internal locus of control would attribute outcomes to situational or external factors to a smaller extent than individuals who believe in an external locus of control (Adams, 1977; Davis and Davis, 1972).

The relationship just described may be modified by certain situational variables, for example, situationally provided causal alternatives (that is, ability, effort, luck and task). Gilmore and Reid (1979) found that while internals did attribute both success and failure to luck

to a smaller extent than externals, the two did not differ significantly with reference to attribution of outcomes to ability, effort and task.

In view of such findings a controversy arises as to whether the relationship between locus of control and attribution should be assessed in a generalized manner or in a situation-specific manner.

The review of motivational and personality determinants of attribution suggests that, in general, these variables interact with the situational variables (especially the nature of the outcome and self vs. other attribution) rather than acting independently in affecting attribution. However, what is not so clear is whether attribution differences due to certain personality and motivational characteristics are **affected** by the difference in situation-specific expectancies or **not**.

(iii) Cognitive-Personal Variables:

Cognitive personal variables may affect the kind of information one seeks, the kind and amount of information a person can adequately handle and how the information is processed. Psychological differentiation and cognitive complexity, as aspects of general perceptual-cognitive

style, are two variables which have received some attention in attribution.

Considering psychological differentiation, individuals are said to be more-or less-differentiated (Witkin, Dyke, Faterson, Goodenough, and Karp, 1962). High-differentiation (in contrast to low-differentiation) or field-independence (in contrast to field-dependence) is referred to as a tendency to perceive physical or social objects independently of its surroundings.

Following this description, it would be expected that field-dependent or less-differentiated individuals would rely more on external cues for physical as well as social perception and therefore while identifying locus of causality also they may be expected to emphasize external factors. By contrast, individuals who are field-independent or highly differentiated would be expected to base their judgements on internal referents and would be likely to emphasize internal factors in perceiving causality as they rely less on external cues.

Based on the above reasoning it was expected that high-differentiation would be related to internal locus of control and low-differentiation to external locus of control. While some support was obtained for this contention (Bax, 1966) most of the studies reported a

non-significant relationship between the two variables. No attempt has been made to examine the role of differentiation in situational attribution.

The second cognitive-personal variable which forms part of a general cognitive style, has been defined by Bieri (1955) and Schroder, Driver and Streufert (1967) as an aspect of the structural component of individuals' cognitive system which can be considered as an index of the way he/she combines information from the outside world and that generated internally.

Schroder, et. al. (1967) proposed that individuals differ with respect to cognitive complexity or information processing complexity. Behaviorally, persons high on cognitive complexity are characterized by "relative thinking", less boundedness to stimulus information, less generalized perception, less dependency on external or social definitions as criteria of validity of their judgements and a capacity to act in an "as if" manner.

From a developmental point of view, under "optimal" environmental conditions, cognitive complexity develops from a relatively simple, concrete and undifferentiated state to an abstract and well integrated state which is reached only after the age of ten (Harvey, Hunt and Schroder, 1961). According to Harvey et. al. (1961) the

optimal environment is one that generally permits maximum information feedback and allows the child to learn from this feedback. Less than optimal environmental conditions generate arrestation at lower levels of development.

Cognitive complexity has been widely studied as a determinant of information processing in impression formation and person perception. Findings of the studies dealing with this issue suggest that high-complexity individuals compared to those low on cognitive complexity are able to integrate discrepant information regarding another person and present a well integrated picture on the basis of contradictory bits of information (Rosenkrantz and Crockett, 1965)..

Cognitive complexity as a determinant of attribution has started gaining some attention only recently. In an investigation of attribution for success and failure

Streufert and Streufert (1969) found that both cognitively complex persons and cognitively simple persons accepted more personal responsibility for success than failure, but this effect was more pronounced for simple persons than for complex persons. Mann (1979) in a more recent study found that those high on cognitive complexity seek more information prior to making a causal judgement and make more complex attributions (that is, utilize larger number of causes rather than single cause) than low

complexity subjects.

Considering that cognitive complexity is a characteristic of the way in which information is processed, it may have implications for attribution process. Moreover, from the point of view of a class of variables which may predict attribution in a variety of situations, it would be worthwhile exploring cognitive-personal (or style related) variables rather than motivational and personality variables. Such an assumption is based on Frankel Brunswik's (1949) suggestion that style- related elements of personality are more pervasive, persistent and general.

The role of cognitive-personal variables in attribution is far from clear. Not only is there a scarcity of research dealing with this question but also the available findings are conflicting.

B. INFORMATION-RELATED DETERMINANTS

Among information-related variables consistency, consensus, distinctiveness, non-common effects, similarity, salience, social desirability and nature of the outcome are the ones which have received considerable attention from researchers.

Applying Kelley's (1967) framework, it has been widely established that different kinds and amounts of

information generate different causal attributions (McArthur, 1972; Ruble and Feldman, 1976; Zuckerman, 1978; Frieze and Weiner, 1971; Orvis , Cunningham and Kelley, 1975). Actions which have unique and non-common effects are attributed to persons' dispositions (Jones and Davis, 1965; Ajzen and Holmes, 1976). The effects are attributed to those antecedents which assume properties similar to those of the effects (Shultz and Ravinsky, 1977). It is also demonstrated that causality is attributed to dispositions of the actor when attention is focussed upon the actor and to situational factors when the situation is salient (Jones and Nisbett, 1972; Taylor and Fiske, 1975; McArthur and Post, 1977).

Among all these information- related determinants of attribution perhaps the most widely studied one is the nature of the outcomes. Frieze (1980) in a recent review pointed out that the nature of the outcome explains a considerable amount of total variance in causal attribution. A number of studies have shown that people in general have a tendency to take greater credit for successful outcomes (that is, they attribute success to their ability and effort) and to hold external forces (that is, luck and task) responsible for failures (Feather and Simon, 1971a; Frieze and Weiner, 1971; Ruble, 1973; Bar-Tal and Frieze 1975).

However, exactly what are the factors which mediate this divergence has been a matter of debate. There is evidence for two classes of variables as likely mediators (Larson, 1977): (a) the motivational biases and (b) the non-motivational biases. The greater internal attribution in the case of positive outcomes may be due to a motivational bias, for example, an inclination to present oneself in a positive light (Arkin, Gleason and Jonston, 1976; Fedroff and Harvey 1976; Miller and Ross, 1975; Miller, 1976). In that case, the divergence would occur only in attributions made in the actor condition.

However, there are findings to substantiate the effects of non-motivational or cognitive biases in attribution for positive and negative outcomes (Taylor and Koivumaki, 1976; Skinner, 1971; Frieze and Weiner, 1971). These investigators showed that attribution was more internal in the case of positive outcomes than in the case of negative outcomes, no matter whether, it involved outcomes pertaining to the self or the other. Such findings support a positivity bias rather than a motivational bias.

In addition to this controversy, the role of personal factors, especially of cognitive personal factors, is also not very clear in attribution for positive and negative outcomes. Since "positive-negative" is an

externally defined evaluative criteria for judgement, it is likely that individuals functioning at different levels of cognitive complexity may react to this information differently. In general, studies dealing with information related determinants of attribution have ignored personal factors (especially the cognitive-personal variables). It is likely that the characteristics of the individual may direct the intake and use of certain kinds of information.

C. SITUATIONAL DETERMINANTS:

Among the situational determinants of attribution the most important variable appears to be the role of the attributor, that is, whether attribution is made for behaviors and events related to self or others. In addition, the effect of the role of the attributor (that is, actor or observer) is modified by the degree of familiarity between the actor and the observer. It also depends on whether the observer is passive or active in the situation, whether the situation involves competition or cooperation and whether attribution is made public.

Jones and Nisbett (1972) proposed that actors have a tendency to attribute causes for their own actions situationally whereas observers tend to see the same

as reflecting traits or dispositions. As evident in the extensive review by Monson and Snyder (1977) actor-observer differences are well documented.

It is reported that significantly more trait attributions were made to a relatively unknown person than to a friend (Nisbett, Caputo, Legant & Moracek (1973)). As mentioned earlier, attribution was also affected by whether observer is passively making attribution or is part of the act (active observer). When involved in a socially undesirable outcome both actors and active observers avoided blaming themselves and tried to ascribe the socially undesirable outcome to factors other than themselves (Cunningham, Starr and Kanouse, 1979).

Jones and Nisbett (1972) identified two major categories of factors as likely mediators of actor/observer differences: (a) cognitive factors including informational, perceptual and processing differences, and (b) motivational variables including differences concerning self-evaluation and self-presentation. Herzberger and Clore (1979), in addition, have pointed out the relevance of some individual difference variables such as internal-external locus of control, self-esteem and self-concept in determining the actor-observer difference.

No attempt, however, has been made to examine the role of cognitive personal variables in explaining actor observer differences. This question assumes relevance in view of Galper's (1976) and Arkin and Gabrenya's (1978) investigations in which they minimized the effect of the role of the attributor by instructing the observer to take the actor's perspective. From this point of view a cognitive personal variable, namely, cognitive complexity (which has implications from the point of view of an ability to take others' perspective) may be worthwhile exploring in the context of self-other attribution.

D. SOCIALIZATION DETERMINANTS

Besides "personal" and "situational" determinants of attribution, there are certain long-term determinants (namely, socialization) which may affect individual's personality and in turn attributions. Some such evidence can be taken from the research done in the area dealing with socialization determinants of locus of control.

It has been of great interest to researchers to examine the socialization determinants of Internal-External Locus of Control (Chance, 1965; Katkovsky, Crandall and Good, 1967; Davis and Phares, 1969; MacDonald 1971a; Levenson, 1973b; Rohner, Chaille

and Rohner, 1980). In general, these studies have shown that maternal permissiveness, early independence, and mothers' flexibility of standards for their children were related to a belief in an internal locus of control.

To sum up, it is clear from the above review that development of causal belief is determined to a considerable extent by socialization variables. Since belief regarding causality is an important aspect of situational attribution, relationship can be expected between attribution and an aspect of parenting, namely, perceived parenting.

THE PROPOSED RESEARCH

The preceding review brings out the fact that information regarding cognitive-personal determinants of attribution of causality has been limited. In addition research regarding the relevance of one such cognitive-personal variable namely, cognitive complexity (which appears to be a promising determinant of attribution in view of its importance in other aspects of person-perception) has been equivocal. Also, it is not clear in what way cognitive complexity would interact with situational variables.

Thus, the present research aimed at examining the relationship between cognitive complexity and causal

attribution, in view of two situational variables namely, the nature of the outcome, and the role of the attributor on the one hand and with the help of a socialization variable that is, perceived parenting, on the other hand.

The nature of the outcome has been found to be an important determinant of attribution (Frieze, 1980). Since cognitive complexity is an information processing variable, it was expected that information regarding the nature of the outcome would affect the relationship between cognitive complexity and attribution.

The role of the attributor was included to see if a cognitive personal variable such as cognitive complexity plays a role in divergent causal attribution. Since high- and low- complexity individuals are reported to differ in their social-perspective-taking ability (Harvey, 1964; Hale and Delia, 1976) it was expected that different attributional patterns would emerge in high- and low- complexity groups.

The age of the subject as a demographic variable assumed relevance in the present context from the point of view of both cognitive complexity and attribution. The present study included subjects from two age levels: (a) pre-adolescents and (b) adults and examined whether attribution or the relationship between cognitive complexity

and attribution changes after cognitive development has reached its peak. In view of Flavell's (1970) suggestions that there are changes which result from "adult socialization", the present investigation examined attribution at two age levels after the age of mature cognitive development.

The sex of the attributor was included in this research on the rationale that differences in attribution may result from sex-role- development.

Finally, "perceived parenting" as an aspect of socialization was included in the present research to explore a long-term determinant of attribution.

The specific questions posed in the present research were as follows:

- (1) Does cognitive complexity play a role in causal attribution in situations where no information other than that regarding the nature of the outcome is given?
- (2) Does the nature of outcome affect attribution independently or in conjunction with a cognitive personal variable?
- (3) Can cognitive complexity (as a personal determinant) account for the divergence in self-and-other-attribution?

- (4) Do cognitive complexity and attribution bear the same relationship at two age levels?
- (5) In what ways is perceived parenting related to attribution?

PLAN OF THE THESIS

In the pages that follow a series of investigations designed to answer the specific questions raised in this research is described. Chapter 2 details the tools used in the present research, and describes a preliminary study involving cognitive complexity, the role of the attributor and the sex of the attributor. Chapter 2 also reports study I which examined the effects of cognitive complexity, Nature of the Outcome, role of the attributor, sex of the attributor and sex of the target on attribution.

Chapter 3 reports two studies which were conducted to examine cognitive complexity and nature of the outcome as determining attribution.

Chapter 4 studies the relationship between perceived parenting and attribution.

The implication of the findings of these investigations are discussed in the final chapter.

CHAPTER 2

SELECTION OF TOOLS AND PRELIMINARY TESTING

This chapter will be dealt with in two major sections: the first section includes a description of tools and a discussion of the preliminary testing, and the second section consists of the description of a study (Study I) conducted to examine the effects of a cognitive- personal variable and a situational variable on attribution.

TOOLS USED IN THE PRESENT RESEARCH:

I. COGNITIVE COMPLEXITY MEASURES:

(1) The Role Repertory Test (REP Test) :

Among the commonly used measures of cognitive complexity, the REP Test (Kelly, 1955) is one which has been used in both its original and modified forms by various investigators (Bicri, 1955; Adams- Webber, 1969; Vacc & Greenleaf, 1975 ; Durand & Lambert, 1976; Starbird and Biller, 1976). Kelly (1955) maintained that differentiation in the construct system of an individual can be understood on the basis of the way in which he/she perceives any two other persons as similar to each other and different from every other person. Cognitive complexity can be determined on the basis of the number of "functionally

different" constructs one possesses to describe others. Those possessing a greater number of such constructs are considered to be "high on cognitive complexity" while those having fewer of such constructs are considered to be "low on cognitive complexity".

The REP Test is available in both the individual and the group forms (Kelly, 1955). In the present research the group form of the REP Test was translated into Hindi for use with Hindi-speaking subjects. The test was used in a 15 x 15 grid form consisting of 15 role-names (Appendix I) taken from Kelly's (1955) original list. Subjects were required to fill in names of persons in these roles from their social surroundings and categorize these persons on a set of 15 bi-polar concepts (personal constructs) elicited by themselves. This was done by putting a check mark (✓) under the names of the persons who could be thus included in a particular construct.

Scoring of the REP test was based on Bieri's (1955) procedure. Each construct row in the grid matrix was compared with every other row to determine the number of matches between them. The specific index of cognitive complexity was derived as follows: (a) whenever two construct rows matched perfectly (that is, an identical check-pattern was obtained) a score of '-2' was assigned,

(b) whenever a construct was repeated with a single exception (discrepancy), a score of '-1' was assigned, and
 (c) all other comparisons were scored as '0'. An algebraic sum of these scores was obtained. The lower this sum, the less cognitively complex the person was supposed to be. Cognitive complexity scores could range from "0" to "-28", 0 representing the highest extreme of cognitive complexity and -28 representing the lowest extreme.

The REP Test as a complexity measure was used only in the pilot study (which will be reported later in this section). In subsequent studies, the REP Test was replaced by Scott's (1962) "Object Sorting Test". The reasons for such a substitution will be discussed in the appropriate context.

(2) Scott's Object Sorting Test:

Because of the technicalities involved in the administration and scoring of the REP Test, Scott (1962) introduced a simpler way to measure cognitive complexity along the same theoretical lines. He suggested that many of the complications of the scoring procedure of Kelly's REP Test may be avoided by asking subjects to employ as many object - names, and as many constructs

comparing these object- names as they may consider necessary.

Based on such considerations Scott's (1962) test involves two simple steps. First, subjects are required to generate a list of object- names from a certain cognitive domain; then they are asked to classify these objects into various meaningful conceptual categories. A small change was introduced for the purposes of the present research. Instead of names of important nations (Scott, 1962), names of important other persons were employed as objects to be classified in order to control for variations in previous information. The rest of the procedure was identical to that of Scott. Following Scott (1962), a Relative Complexity Score (R) was obtained as the index of cognitive complexity.

II. CAUSAL ATTRIBUTION MEASURES:

(1) The Attribution Scale:

It was planned that a paper-and- pencil measure of attribution would be used in the present research. Literature shows evidence of such an approach to the measurement of causal attribution. For example, McArthur (1972) adopted this method to provide information about hypothetical situations. More recently, Fontaine (1975) used a similar tool involving sets of situational descriptions in order to provide different kinds and amounts of information through

a change of wording. The situational descriptions used in the Attribution Scale used in the present research differed from those cited above in that they did not provide any information other than that pertaining to the positive or negative nature of the outcome and the role of the attributor (Actor/Observer).

Eight real life events were selected from a wide range of activities which young adults generally engage in. The events were so described that attributors received information only about the outcome (that is, the protagonist either succeeded or failed). Besides, the descriptions were intended to produce ambiguous situations where no additional cues for causal inference were available. At the end of each situational description, four possible causes (which could have been responsible for the given outcome) were provided along with a six-point rating-scale for each cause. The subjects were asked to rate each possible cause in terms of the extent to which it could have been responsible for the depicted outcome.

The six- point scale was anchored at the ends "Least- responsible" (represented by a score of "1") and "Most-responsible" (represented by a score of "6"). The intermediate points (that is, 2,3, 4 and 5) were assigned appropriate labels (details are given in Appendix II).

The four possible causes were classified into internal factors (one cause was related to Ability and the other, to Effort) and external factors (one cause was related to Luck and the other, to Task).

A significant feature of this tool was that all the items were scored for internality. Although the rating scales for the "internal" and "external" causes were identical, while scoring, ratings on the external causes were considered in the reverse order. In other words, a low rating on the external causes represented a rejection of external factor in favor of some internal cause. The rating on both internal and external factors were summed up in each situation and an average was taken over eight situations. The average score, which will be referred to as the "average internality score", constituted the dependent measure.

The "Attribution Scale" was used in the first two studies (including the pilot study) of the present research. In the later studies, attribution was measured by means of another tool namely, "Intellectual Achievement Responsibility Scale" (I.A.R. scale) (Crandall, Katkovsky and Crandall, 1965), which is described below.

(2) The Intellectual Achievement Responsibility Scale:

The I.A.R. scale was introduced in order to study attribution at varying age levels. Although the I.A.R. scale in its original form was used with children it has been found to be suitable for adults also (Lao & Wuensch, 1979). In addition to providing a similar form to the "Attribution Scale" in terms of the structure and the kind and amount of information provided, it consists of two sets of items, one set involving positive outcomes, and the other, negative outcomes.

Thus, the I.A.R. scale permits us to present both positive and negative outcomes without appreciably increasing the administration time. One alternative was to construct a parallel form of the Attribution Scale for use with children. However, in view of anticipated problems in administration and test-taking this alternative was not followed.

The I.A.R. scale was used in its original (English) version with one sample (The study exploring parenting antecedents of attribution and cognitive complexity described in chapter 4) and in a translated Hindi version with the other samples (both versions of the I.A.R. scale are presented in Appendix III). The scoring of the I.A.R. scale was based on the procedure described by Crandall et.al.

(1965). This involved calculating three scores: I^+ , I^- and $I - \text{Total}$. The I^+ and the I^- scores signify "internality for positive outcomes" and "internality for negative outcomes". These indices were obtained by summing up scores attained by the subjects separately on items related to positive outcomes and items related to negative outcomes. The $I - \text{Total}$ score which was a simple addition of I^+ and I^- scores, represented the subjects' total internality.

III. THE MEASURE OF PARENTAL ANTECEDENTS:

The Perceived Parenting Questionnaire (P.P.Q.)(MacDonald, 1971a):

The Perceived Parenting Questionnaire, adapted by MacDonald from the Cornell Questionnaire (Devereux, Bronfenbrenner, and Rogers, 1969) was used in order to measure the behaviors and attitudes of parents as perceived by their children. The P.P.Q. consists of 21 items representing nine general parenting variables, namely, Nurturance, Instrumental Companionship, Principled Discipline, Predictability of Standards, Protectiveness, Physical Punishment, Achievement Pressure, Deprivation of Privileges and Affective Punishment (a description of these variables would be presented in the appropriate context). Appendix IV presents an English version of the P.P.Q.

The procedure for administration and scoring of P.P.Q. was same as that of MacDonald (1971a). Two identical (except for the pronouns) forms of this scale were to be administered, once with respect to the mother and again with regard to the father. Each item was to be rated on a 5-point scale. The higher the score, the greater the extent of the factor being perceived in a particular parent. Each subject obtained 18 scores on the P.P.Q., nine related to the father's parenting behavior and nine related to the mother's parenting behavior.

PRELIMINARY TESTING

Pilot Study:

The pilot study was conducted with two aims: (a) to try out the tools for measuring cognitive complexity (the Role Repertory Test)(Kelly, 1955) and causal attribution (the Attribution Scale, constructed by the author), and (b) to test specific hypotheses regarding the effect of a cognitive- personal and a situational determinant of attribution.

METHOD

Overview of the Design:

Three independent variables: cognitive complexity (high/low), the role of the attributor (Actor/Observer) and

the sex of the attributor (Male/Female) were factorially combined into a 2 x 2 x 2 experimental design.

The dependent measure was the attribution score obtained on the basis of ratings on the "Attribution Scale".

Subjects:

One hundred and twenty-two college undergraduates, ranging in age between 17 and 19 years, served as subjects in this study.

Procedure:

Subjects were first administered the REP Test, followed by one of two versions of the "Attribution Scale", the "Actor (self-attribution) Version", and the "Observer (other-attribution) Version". Half of the subjects received one version, and the other half received the other version. The only difference between the two was that in the "Actor-Version" the protagonist (target) in each situation was the subject himself or herself, while in the "Observer-Version" the target was a different person (designated 'X'). The two versions were appropriately worded to suit the actor-observer distinction.

Hypotheses:

- (1) It was expected that those high on cognitive complexity would be less likely to make extreme

(either internal or external) attributions, relative to those low on cognitive complexity. Such a prediction was based on Schroder, Driver, and Streufert's (1967) contention that high complexity individuals compared to the low-complexity individuals are characterized by relative thinking and have less of a tendency to make extreme judgments.

- (2) The discrepancy between self and other- attribution of high complexity individuals was expected to be smaller than that of low complexity individuals because the former can take others' perspective more easily than the latter (Halo & Delia 1976).
- (3) In view of earlier research findings (Arkin, Gleason & Johnston, 1976; Frieze and Weiner, 1971; Miller, 1976; Ender & Bohart, 1974) males were expected to be more internal in their attribution than females.

RESULTS AND DISCUSSION

An analysis of variance (unequal means) (Winer, 1971), involving cognitive complexity, the role of the attributor and the sex of the attributor as independent variables, was carried out on the Attribution Scale Scores. Table 1(a) presents means and standard deviations; a summary of the analysis of variance is presented in Table 1(b).

Insert table 1(a) & 1(b) here

TABLE 1(a) : Means and Standard deviation of Attribution Scale Scores in high/low cognitive complexity, Actor/Observer, and Male/Female groups.

		High-Complexity		Low- Complexity	
		Actor	Observer	Actor	Observer
Male	\bar{X} =	16.29	16.99	16.59	15.37
	SD=	1.39	1.39	2.46	1.82
		(10)	(14)	(16)	(7)
Female	\bar{X} =	16.81	16.62	15.08	17.5
	SD=	16.81	2.03	1.78	1.37
		(18)	(17)	(19)	(20)

NOTE: Numbers in parentheses indicate cell frequencies.

TABLE 1(b) : Summary of ANOVA on Attribution Scale Scores (Pilot Study)

Source	SS	df	MS	F	p
Total	389.32	120			
A (sex; male/ female)	.995	1	.995	.34	
B. (Cognitive Complexity high/low)	7.919	1	7.919	2.74	
C. (Role of Attributor Actor/ observer)	4.921	1	4.921	1.69	
AB	3.375	1	3.375	1.17	
AC	12.706	1	12.706	4.39	.05
BC	.793	1	.793	.27	
ABC	31.488	1	31.488	10.88	.01
S. Within groups	327.123	113	2.895		

It can be seen that while there was no significant main effect of any of the factors, a significant interaction was obtained between sex of the attributor and role of the attributor, and between cognitive complexity, Role of the attributor and Sex of the attributor. A comparison of means indicated that the highest internal attribution was shown by the low-complexity females in the observer role and the lowest internal attribution was made by low-complexity females in the actor role. Low-complexity males compared to their female counterparts made significantly less internal attribution in the observer role. Differences between all other means were non significant.

As expected, the differences between self-and-other-attribution of high- complexity subjects were smaller than that of low-complexity subjects. Those high on cognitive-complexity showed negligible differences between their self and other attributions but whereas, there was considerable difference between self-and-other-attribution of low-complexity individuals. The cognitive complexity x actor observer interaction was further modified by the sex of the attributor. While low-complexity females were significantly more internal in the observer role than in the actor role, the reverse occurred in the case of low-complexity males.

An attempt was made to explain the differences shown by low- complexity males and females in their self- and other-attributions, in terms of the norms of social approval or disapproval. Harvey (1964) suggested that the low-complexity individuals are more sensitive than the high-complexity individuals to social cues such as norms of approval or desirability. Assuming that the situations provided in this study evoked such social cues, it would be expected that low-complexity individuals would be more likely to base attributions on social approval considerations than high-complexity individuals.

It appears that low- complexity males and females responded differently to the social- desirability norm in keeping with their differential sex-role socialization. It is socially desirable for females to appear modest by not taking personal credit for positive outcomes (Berg, Stephen and Dodson, 1981); hence their lower internal attribution in the actor than in the observer role. For males, it is socially desirable to appear personally responsible for a positive outcome; hence a tendency (non- significant) toward a greater internal attribution in the actor role than in the observer role.

In short, the pilot study demonstrated: (a) that none of the three independent variables had a significant

main effect on attribution, (b) that while cognitive complexity did not by itself affect attribution for positive outcomes, it interacted significantly with the role of the attributor and the sex of the attributor to affect attribution.

While seeking an explanation of the results of the pilot study, it was felt that the lack of main effects of the independent variables, especially of cognitive complexity could have been due to:

- (1) The tool for measuring cognitive complexity: Certain practical problems were encountered in administering the REP Test because of which it was suspected that subjects may not have responded properly on this test. To avoid this problem in all subsequent studies, Scott's (1962) object sorting test was used instead of the REP Test.
- (2) The Nature of the Outcome: Since the pilot study involved only positive outcomes, it was suspected that different results would emerge in the case of negative outcomes.
- (3) The Sex of the target: In the case of "other-attribution", since no specific mention was made of the sex of the target, possibly subjects found the attribution situation some what ambiguous.

Such a problem of course would not arise in the case of "self-attribution" (Actor condition).

Considering these three possibilities the next study (Study I) investigated the effects of cognitive complexity, the nature of the outcome, the role of the attributor, the sex of the attributor, and the sex of the target (in the observer condition) on causal attribution.

STUDY I

METHOD

Overview of the Design:

Cognitive complexity (High/Low), nature of the outcome (positive/negative), role of the attributor (actor/observer), and sex of the attributor (male/female) were combined into a 2 x 2 x 2 factorial design. The sex of the target was a part of only the "Observer Condition".

Since both the nature of the outcome and the role of the attributor were to be manipulated, four versions of the Attribution Scale were used corresponding to the four experimental conditions resulting from the combination of these two variables.

The sex of the target was manipulated by telling subjects in the Observer Condition either that 'X' was a

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male or that 'X' was a female. In short, the experimental conditions in the present study were as follows:

- A. Self as target with positive outcomes
(Actor/Positive outcome)
- B. Self as target with negative outcomes
(Actor/Negative outcome)
- C. Other person (Male/Female) as target with positive outcomes, that is,
 - C₁. Observer/Male target/Positive outcome
 - C₂. Observer/Female target/ Positive outcome.
- D. Other person (Male/Female) as target with negative outcomes, that is,
 - D₁. Observer/Male target / Negative outcome.
 - D₂. Observer/Female target / Negative outcome.

For reasons mentioned earlier in this chapter (p. 43) cognitive complexity was measured with the help of Scott's (1962) "Object Sorting Test" instead of the REP test (Kelly, 1955).

Hypotheses:

It was expected that the effects of the independent variables which were obtained in the pilot study would emerge even more prominently in Study I because the latter study would include both positive and negative

outcomes. This prediction was based on Weiner's (1972) suggestion that the negative valence attached to a negative outcome or failure makes the attributor more responsive to the situation and make him or her get involved in the attribution process.

With respect to the new independent variables (Nature of the outcome and Sex of the target) it was expected that:

- (a) Internal attribution would be higher in the case of positive outcomes than in the case of negative outcomes,
- (b) Internal attribution would be higher in the case of a male target than in the case of a female target in the case of positive outcomes. The opposite would hold in the case of negative outcomes. This is due to the belief that men are more competent, than women (Feldman- Summer & Kiesler, 1974; Etaugh & Brown, 1975).

The hypotheses regarding cognitive complexity, the role of the attributor and the sex of the attributor were the same as in the pilot study.

Subjects:

Three hundred college undergraduates (belonging to the same age range as in the pilot study) served as subjects

in this study.

Procedure:

The procedure of this study was similar to that of the pilot study, except for a few additional steps. Subjects were first given Scott's test (1962), following which they were randomly assigned to one of the six experimental conditions mentioned earlier. The appropriate versions of the "Attribution Scale" were then administered. Subjects in the "Observer Condition" were given information regarding the sex of the target.

RESULTS AND DISCUSSION

Subjects were classified into high and low-complexity groups on the basis of a median split on the complexity scores. Forty subjects were excluded from the final sample since their scores lay right on the median. The attribution scores of 251 subjects were subjected to an analysis of variance to test the effects of the independent variables on causal attribution.

In a preliminary analysis it was noted that the sex of the target did not have a significant main effect; nor did it interact significantly with any of the other

variables. Therefore, the sex of the target as a variable was excluded from the subsequent analysis. An analysis of variance including cognitive complexity, nature of the outcome, role of the attributor and sex of the attributor yielded the results presented in tables 2(a), and 2(b).

Insert table 2(a) & 2(b) here

There was a significant main effect of the nature of the outcome. As predicted, subjects made significantly more internal attributions for positive outcome. This finding can be interpreted in terms of a "Positivity bias" proposition (Skinner, 1971; Frieze and Weiner, 1971) which suggests that individuals for other than motivational reasons pay more attention to positive than to negative outcomes while attributing them internally. A detailed discussion of "positivity bias" and its underlying processes would follow in a later chapter.

The only other significant finding was a main effect of the role of the attributor. Subjects made significantly more internal attribution for others than for themselves. This result was not quite in keeping with the findings of the pilot study, which indicated that the role of the attributor interacts significantly with the sex of the attributor and his/her level of cognitive complexity but does not affect attribution independently.

TABLE 2(a): Means and Standard Deviations of Attribution Scale Scores in High/Low Cognitive Complexity, Actor/Observer, Positive/Negative Outcome and Male/Female groups.

		<u>High-Complexity</u>				<u>Low-Complexity</u>			
		<u>Actor</u>		<u>Observer</u>		<u>Actor</u>		<u>Observer</u>	
		+Ve outcome	-Ve outcome	+Ve outcome	-Ve outcome	+Ve outcome	-Ve outcome	+Ve outcome	-Ve outcome
\bar{X}		16.78	13.92	16.21	15.22	16.56	13.68	16.75	14.30
Male	SD=	1.66	.80	1.88	1.60	1.67	1.63	1.63	2.47
		(16)	(7)	(25)	(22)	(7)	(10)	(21)	(20)
\bar{X}		16.23	13.25	16.87	14.05	15.83	13.06	17.04	13.56
Female	SD=	2.25	.94	1.97	1.88	1.18	1.32	1.62	1.58
		(7)	(12)	(22)	(19)	(12)	(6)	(22)	(23)

Note: The numbers in parentheses indicate cell frequencies.

TABLE 2(b) : Summary of ANOVA on Attribution Scale Scores (Study I)

Source	SS	df	MS	\bar{F}_c	p
Total	1106.56	250			
A. (high/low Complexity)	2.60	1	2.60	1	
B. (male/female att.)	10.04	1	10.04	3.36	
C. (actor/observer) role of attri.)	16.74	1	16.74	5.59	.05
D. (positive/negative outcome)	347.696	1	347.696	116.29	.001
AB	0.0	1	0.0	0	
AC	0.0	1	0.0	0	
AD	2.98	1	2.98	1	
BC	1.98	1	1.98	1	
BD	6.57	1	6.57	2.19	
CD	2.36	1	2.36	1	
ABC	.124	1	.124	1	
ACD	3.84	1	3.84	1.28	
BCD	6.08	1	6.08	2.03	
ABD	.87	1	.87	1	
ABCD	.124	1	.124	1	
S W groups	704.56	235	2.99		

The greater internality shown in the case of other than in the case of self-attribution (Study I) was in accordance with Mann's (1979) results that is, subjects made more "person" attributions for events involving another person and the events involving the self were attributed more to the "stimulus" (that is, to something external to the attributer). She explained this finding in terms of the differences in actor's and observer's 'perceptual focus'. She maintained that when one is asked to explain some one else's behaviour the focus of attention is the person rather than activity; hence a "person" (or internal) attribution. But in making an attribution for oneself, attention is directed towards the event rather than towards the self; hence a "stimulus" (or external) attribution.

In summary, considering together the findings of the pilot study and those of study I, it can be said that there are indications that cognitive complexity does not independently affect attribution, that nature of the outcome seems to be an important factor in affecting attribution, and that the effect of the sex of the attributor and the role of the attributor appears somewhat ambiguous.

The next study (Study II) further investigated the effect of cognitive complexity, the sex of the attributor and the nature of the outcome in order to see if different

attribution patterns emerge when attributors are simultaneously presented with information regarding both success and failure. Moreover, Study II also aimed at examining attribution at two age levels: (a) in college adults (between 17 - 19 years of age) and (b) in school going pre-adolescents (between 11-13 years of age), to see if adults differ from pre-adolescents in their attribution, given that both have reached a level of cognitive maturity.

In order to simplify the design the role of the attributor and the sex of the target were excluded.

The next chapter describes the details of the proposed study.

and 19 years of age) and the other including school-going pre-adolescents (between 11 and 13 years of age). Both investigations presented positive as well as negative outcomes to the same attributor.

A test of attribution that could make possible the inclusion of positive and negative outcomes simultaneously and would be suitable for both adults and pre-adolescents was needed. The Intellectual Achievement Responsibility Scale (described in Chapter 2 p. 34) was found to serve both purposes. For the measurement of cognitive complexity Scott's test was retained in the proposed study, since prior testing had established its suitability for use with pre-adolescents.

Hypotheses:

As in the earlier studies, it was expected that attribution would be more internal in the case of positive outcomes than in the case of negative outcomes. Sex differences were also expected.

With regard to cognitive complexity the first two studies (the pilot study and Study I) showed varying results. While the pilot study demonstrated that cognitive complexity influenced attribution in interaction with the role of the attributor and the sex of the attributor, no

significant effect of cognitive complexity was found in study I. The other two studies available in this area (Streufert and Streufert, 1969; Mann, 1979) again gave different results. One of them (Streufert and Streufert, 1969) reported an interaction between cognitive complexity and the nature of the outcome while the other one (Mann, 1979) demonstrated the main effect of cognitive complexity on attribution. Since, the design of the present study is more similar to that of Streufert and Streufert (1969) study than to Mann's an interaction between cognitive complexity and the nature of the outcome was expected.

STUDY II (a)

METHOD

Overview of the Design:

The effects of cognitive complexity, nature of the outcome and sex of the attributor on internal attribution were examined by means of a $2 \times 2 \times 2$ (high/low cognitive complexity X positive/negative outcome X male/female attributor) design.

Subjects:

One hundred undergraduate students (50 males and 50 females) between 17 and 19 years of age, served as subjects in this study.

Procedure:

Subjects were administered Scott's test followed by the I.A.R. Scale.

RESULTS

Subjects were classified into high and low complexity groups on the basis of a median-split on their cognitive complexity scores as in the earlier studies. Eleven subjects had to be excluded from the final sample because their scores lay on the median. Three scores I^+ (Internality for positive outcomes), I^- (Internality for negative outcomes) and I^- total (Total-Internality) were calculated for each subject on the I.A.R. Scale. An analysis of variance was carried out to examine the effects of cognitive complexity, the nature of the outcome and the sex of the attributor on internal attribution; the major results of which are presented in Tables 3(a) and 3(b).

Insert Tables 3(a) & 3(b) about here

TABLE 3(a): Means and Standard deviations of I.A.R. Scale Scores in Cognitive Complexity, High/Low, Nature of outcome, Positive/Negative and Sex of the Attributor Male/Female groups.

	High- Complexity		Low- Complexity	
	+Ve outcome	-Ve outcome	+Ve outcome	-Ve outcome
Male	$\bar{X} = 14.29$	12.82	14.0	13.36
	SD= 2.42	1.98	2.0	1.91
	(17)	(17)	(28)	(28)
Female	$\bar{X} = 14.08$	12.25	14.17	12.88
	SD= 2.06	2.82	1.91	1.94
	(27)	(27)	(17)	(17)

NOTE: Numbers in parentheses indicate cell frequencies.

TABLE 3(b) : Summary of ANOVA on I.A.R. Scale Scores (Study II(B))

Source	SS	df	MS	F	p
Between	491.798	88			
A (Cognitive complexity high/low)	2.48	1	2.48	1	
B (Sex male/Female)	3.14	1	3.14	1	
AB	.610	1	.610	1	
SW groups	485.568	85	5.71		
Within	395.71	89			
C (N.of outcome positive/negative)	71.88	1	71.88	19.37	.01
AC	4.86	1	4.86	1.31	
BC	2.61	1	2.61	1	
ABC	.23	1	.23	1	
C x SW groups	316.13	85	3.72		

Consistent with the expectations and the findings of Study I, subjects indicated significantly greater internality for positive outcomes than for negative outcomes. Also cognitive complexity and the sex of the attributor did not affect attribution significantly either by way of main effects or by way of interactions.

The same variables were then investigated in a sample of pre-adolescents.

STUDY II (B)

Subjects:

One hundred school-going pre-adolescents (50 boys and 50 girls), ranging in age between 11 and 13 years, participated in this study.

Procedure:

The procedure of this study was identical to that of the adult study (Study II(A)).

RESULTS

The results of the analysis, which were carried out on the same lines as in the adult study, are presented in

Tables 4(a) and 4 (b).

Insert Tables 4(a) and 4(b) here

In keeping with the hypothesis and the results of Study I and Study II(A), the nature of the outcome had a significant main effect on attribution. That is, the attribution was more internal in the case of positive outcome than in the case of negative outcomes.

An interesting departure from the findings of the adult study was the emergence of a significant interaction between cognitive complexity and Nature of the outcome. Specifically, high- and low- complexity subjects differed significantly in their attributions of negative outcomes, but not of positive outcomes. Those high on cognitive complexity indicated greater internal attribution for negative outcomes compared to their low-complexity counterparts. Although both high-and low- complexity subjects showed greater internality for positive than for negative outcomes, this difference was significant only in the case of low-complexity subjects. This interaction is graphically shown in Figure 1(a).

Insert Figure 1(a) about here

TABLE 4(a): Means and Standard deviations of I.A.R. Scale Scores in Cognitive Complexity, High/Low, Nature of Outcome Positive/Negative and Sex of the attributor Male/Female groups.

	High-Complexity		Low- Complexity	
	+Ve outcome	-Ve outcome	+Ve outcome	-Ve outcome
Male	$\bar{X} = 13.62$	12.72	14.14	11.97
	SD= 1.56	2.74	1.73	3.12
	(13)	(13)	(35)	(35)
Female	$\bar{X} = 13.90$	12.65	14.23	10.15
	SD= 7.005	2.26	1.58	3.26
	(31)	(31)	(13)	(13)

NOTE: Numbers in parentheses indicate cell frequencies.

TABLE 4(b): Summary of ANOVA on I.A.R. Scale
Scores (Study II(B))

Source	SS	df	MS	F	p
Between	856.46	91			
A (Cognitive Complexity: High/Low)	14.30	1	14.30	1.52	
B (Sex : Male/Female)	5.90	1	5.90	1	
AB	8.57	1	8.57	1	
SW. groups	827.69	88	9.39		
Within	383.83	92			
C (N.of outcome: Positive/Negative)	116.03	1	116.03	92.24	.001
AC	40.94	1	40.94	22.74	.01
BC	12.57	1	12.57	6.98	.05
ABC	5.52	1	5.52	3.07	
C x SW. groups	158.77	88	1.80		

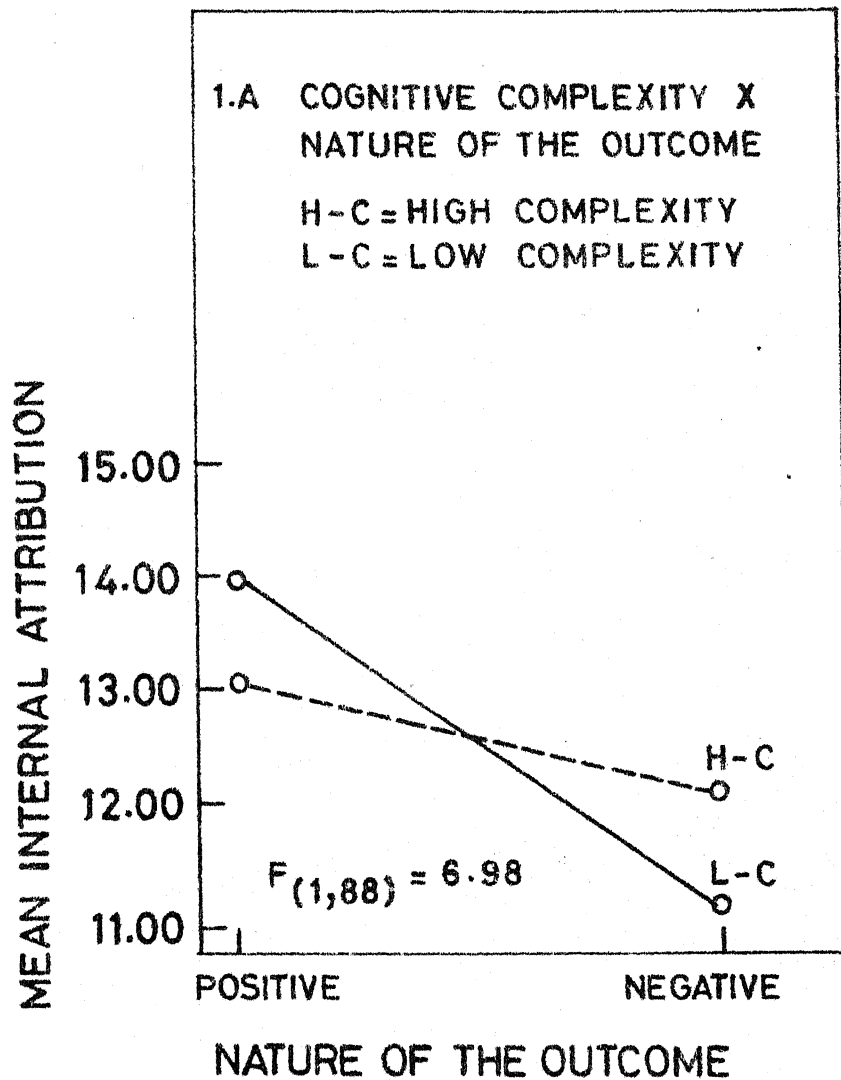


FIG.1.A MEAN INTERNALITY AS A FUNCTION
OF COGNITIVE COMPLEXITY AND
NATURE OF OUTCOME

In addition, the sex of the attributor interacted significantly with the nature of the outcome to affect attribution (Study II(B)). While boys and girls did not differ in their attributions for positive outcomes, they did differ in the case of negative outcomes. It was found that males showed greater internality than females in the case of negative outcomes. Figure 1(b) shows the interaction between sex of attributor and nature of outcome.

Insert Figure 1(b) about here

The results of Study II(A), and II(B) demonstrated that while the nature of the outcome affected attribution most consistently, cognitive complexity interacted with the nature of the outcome to affect attribution in the case of pre-adolescents but not adults. In addition, the sex of the attributor in conjunction with the nature of the outcome affected attribution only in pre-adolescents.

Comparing Study II(A) and II(B), the major findings can be interpreted on the lines discussed below:

The Nature of the Outcome X Sex of the Attributor Interaction:

The results with regard to the sex of the attributor did not provide a general support to the hypothesis that males would be more internal than females (either among adults or among pre-adolescents). However, the interaction between the nature of the outcome and the sex of the

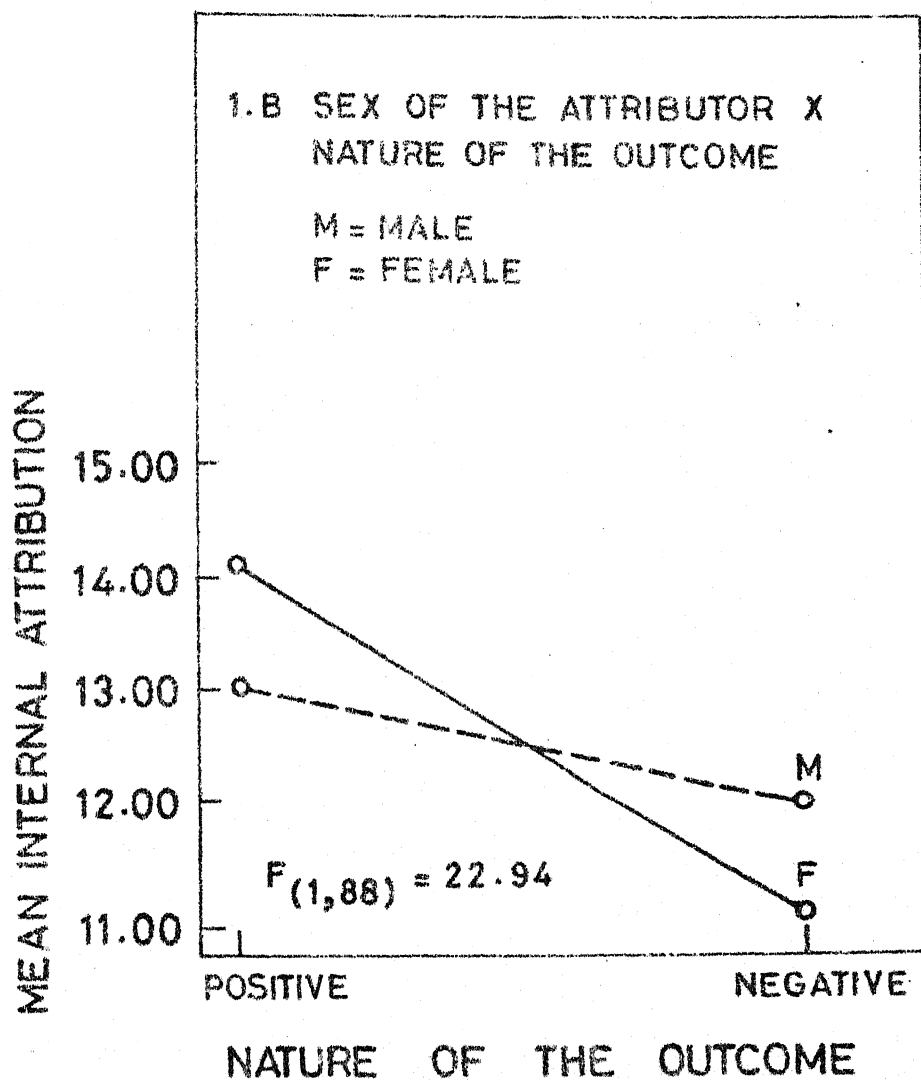


FIG.1.B MEAN INTERNALITY AS A FUNCTION
OF SEX OF THE ATTRIBUTOR AND
NATURE OF OUTCOME

attributor (obtained only in Study II(B)) (the pre-adolescent study), shows that while there was no sex difference in the case of positive outcomes, males showed significantly greater internality compared to females in the case of negative outcomes.

The interaction between the nature of the outcome and the sex of the attributor can be explained in terms of differential sex- role socialization. Since achievement orientation is emphasized in the socialization of males rather than females , the former should be more concerned about changing their failure into success than the latter. One important pre-requisite for any future action in this direction, according to Weiner (1972), is to explain failure in terms of internal factors. Thus, higher internality shown by boys in the case of negative outcomes may be indicating the same tendency.

The absence of a main effect of Cognitive Complexity (Study II(A) and II(B) and the evidence of an interaction between the Nature of Outcome and Cognitive Complexity (Study II(B)):

Such a feature of the present investigation was interpreted with the help of the "Interactive Complexity Theory" (Streufert and Streufert, 1978). The major proposition of the "Interactive Complexity Theory" is that

information processing depends on the complexity of the individual and the characteristics of the environment to which he is exposed. The proponents of this theory further suggest that there should be an 'Optimum level' of complexity in the environment in order for the difference in information processing by high and low- complexity individuals to emerge prominently. That is, the difference between high and low- complexity individuals may not appear clearly at either very low or very high levels of environmental complexity.

In the present context, information provided for attribution may be considered as an aspect of a environmental complexity (Streufert and Streufert, 1978). The complexity of information, according to these authors , consists of: (a) Information Load (the quantity of information per unit time), (b) Eucity (the success component of information) and (c) Noxity (the failure component of information). It is suggested that the general lack of a prominent effect of cognitive complexity may be due to an overall lack of an optimum level of complexity with[?] the information provided in these studies. However, it appears plausible to propose that among the three components of the complexity of information (Information load, Eucity and Noxity) the information load was of an optimal level for the pre-adolescents but not for the

adults, which may be responsible for the interaction between cognitive complexity and the nature of the outcome only in the case of pre-adolescents. A possible reason for such a difference in adults and pre-adolescents may be the nature of certain social experiences individuals at two age levels go through.

The explanation based on the complexity of information is obviously speculative. A more definite statement regarding this issue can be made only after an investigation of cognitive complexity.

In addition, the interaction between cognitive complexity and the nature of the outcome can also be explained independently of the complexity of information, through a mediation of self-esteem and on the basis of the difference between the ease with which high- and low-complexity individuals can combine contradictory bits of information (Rosenkrantz and Crockett, 1965).

In connection with the first⁷ explanation, research suggests that self-esteem is related to both cognitive complexity and attribution. With regard to cognitive complexity, it is reported that it is inversely related to self-esteem (Leventhal & Singer 1964). That is, high-complexity individuals show relatively lower self-esteem than low-complexity individuals. With reference to the

relationship between self-esteem and attribution, it has been reported (Fitch, 1970) that high self-esteem individuals attribute success more internally than failure while the low-self-esteem individuals do the opposite. In explaining this relationship, Fitch (1970) suggested that in order to maintain consistency individuals make attributions according to their self-image. Specifically, the high self-esteem individuals maintain consistency with their positive self-image by attributing success internally and denying responsibility for failure. The low-complexity individuals, on the other hand, maintain consistency with their negative self-image by doing the opposite (that is, they assume responsibility for failure and deny credit for success).

Considering that high complexity individuals are lower on self-esteem compared to low-complexity individuals and that high and low-self-esteem give rise to different attributional patterns, it would be expected that high-complexity individuals would take credit for failure and deny responsibility for success whereas low-complexity individuals would take personal credit for success and deny responsibility for failure.

The predictions given above were borne out in the case of low-complexity individuals but not in the case of high-complexity individuals. Thus, an explanation based on

self-esteem, only partially explains the interaction between cognitive complexity and nature of the outcome in the present context.

With regard to the second explanation, Rosenkrantz and Crockett (1965) reported that high and low-complexity individuals differ in terms of their ability to combine contradictory pieces of information. High-complexity individuals are found to be able to make such a combination more easily than low-complexity individuals, and therefore, do not differentiate much between positive and negative outcomes in terms of causality. The prominent difference between attributions for positive and negative outcomes by low-complexity individuals may possibly indicate that these individuals treated success and failure as two distinct and opposite categories of outcomes with respect to causality.

The main effect of the Nature of the Outcome:

Several explanations have been advanced for the greater internal attribution of positive outcomes than of negative outcomes. Larson (1977) has classified these explanations into two categories: (a) those involving motivational mediators, (b) those involving non-motivational mediators. Among the motivational mediators, research evidence is available on self-esteem (Hastorf, Schneider

and Polefka, 1970; Wolosin, Sherman and Till, 1973), Self-serving biases (Arkin, Gleason and Johnston, 1976; Beckman, 1970; Bradley, 1978; House, 1980; Greenberg and Pyszczynski, 1982), and Ego-defensive and ego-enhancing tendencies (Miller and Ross, 1975). Among the non-motivational mediators the better established ones are, Positivity bias (Skinner, 1971; Frieze and Weiner, 1971) and Reinforcement Histories (Chaikin, 1971; Streufert and Streufert, 1969).

In the present context attention will be focussed on non-motivational mediators because the present research aims primarily at examining the cognitive mediators of internal attribution. Among non-motivational mediators, "Positivity bias" appears to be a plausible explanation for the greater internal attribution of positive than of negative outcomes in the present set of investigations.

The "positivity bias" explanation is based on the evidence that people are biased toward favourable evaluations (Desoto and Kuehne, 1959; Zajonc and Bernstein, 1965). In the context of attribution, it is suggested that individuals in general show a tendency to attribute behaviors with good consequences to internal factors and behaviors with bad consequences to external factors (Skinner, 1971; Frieze and Weiner, 1971). Such a bias towards positive

attribution (that is, internal attribution of positive outcomes and external attribution of negative outcomes) is said to be independent of the role of the attributor (Feather and Simon, 1971; Frieze and Weiner, 1971; Froess, 1978 ; Ruble, 1973). Thus, unlike a "self-serving bias" (that is, ego defensive or ego-enhancing tendencies), "positivity bias" is a general bias towards positivity.

The positivity bias has been explained in terms of two concepts (as suggested by Miller and Ross, 1975), namely, "outcome expectations" and "the perception of contingency." The outcome expectation hypothesis states that outcomes, that are expected, are attributed to internal factors to a greater extent than outcomes which are unexpected (Feather and Simon, 1971(a) and 1971(b)). Since positive outcomes are expected more than negative outcomes (Miller and Ross, 1975) this proposition would predict that attribution for positive outcomes would be more internal than that for negative outcomes.

While such a prediction seems plausible, it is not quite compatible with certain other research findings. For example, positive outcomes may be expected less than negative outcomes by persons who have an external locus of control (Phares, 1976) and by persons low on self-esteem (Coopersmith, 1967). Hence, the outcome expectation

hypothesis needs more careful verification in the present context.

The second proposition, that is, "perception of contingency" based on the findings of Jenkins and Ward (1965), states that subjects perceive contingency between internal factors and desired outcomes. Since positive outcomes are desired more than negative outcomes (Miller & Ross, 1975) individuals would perceive a contingency in the case of positive outcomes but not in the case of negative outcomes, and explain the former on the basis of internal factors. In short, persons tend to associate only desired outcomes with internal factors, whereas, the undesirable outcomes are perceived as occurring because of forces beyond personal control.

To sum up, the results of study II(A), and II(B) suggested that cognitive complexity appears to play a negligible role if at all, in causal attribution in the case of adult subjects. It is the nature of the outcome which has prominence in adult attribution. In the case of pre-adolescents, while the nature of the outcome is the most important determinant of attribution (as in the case of adults), it interacted with cognitive complexity and also with the sex of the attributor.

While the interaction between the nature of the outcome and the sex of the attributor was explained in terms

of sex-role-socialization, the cognitive complexity by nature of the outcome interaction was explained with the help of a motivational and cognitive variable. The presence of the nature of the outcome by-cognitive complexity interaction among pre-adolescents and its absence in adults was explained with help of the "interactive complexity theory".

The studies described in this chapter and chapter 2 demonstrated the nature of the outcome to be the most powerful determinant of attribution. An explanation was sought for the difference in the attribution of positive and negative outcomes in terms of the "outcome expectation hypothesis" and the "perception of contingency hypothesis". Since no direct attempt has been made so far to examine which of the two propositions suggested for explaining the positivity bias effect holds, the next study in the present series took up this question. It was also important to consider this issue from a practical point of view. In order to be able to help individuals to change or modify their cognition regarding success and failure in the direction of effective adaptation (through attribution), it is important to understand the actual underlying processes. Therefore, the following study (Study III) aimed at examining the two possible mediators of the positivity bias effect in the attribution of success and failure.

STUDY III

METHOD

Overview of the Design:

Three independent variables namely, cognitive complexity (high/low), the nature of the outcome (positive/negative) and the outcome expectation (expected/unexpected) were combined into a 2x2x2 factorial design. The dependent variable consisted of attributions on four causal alternatives, namely, Ability, Effort, Luck and Task.

Cognitive complexity was measured in the same manner as in earlier studies. The nature of the outcome and outcome expectations were manipulated on the basis of subjects' performance on a digit-symbol substitution and addition task. These manipulations are described later in the present section. While the test of "outcome expectation hypothesis" was part of the experimental procedure. The test of the "perception of contingency hypothesis" was built into the dependent measure (Attribution Questionnaire).

Subjects:

One hundred school-going pre-adolescents^u boys (between 11 and 13 years of age) participated in this study.

Procedure:

Subjects were given Scott's test of cognitive complexity. Sixty four subjects (32 from each extreme of the complexity score distribution) were selected from the original sample to constitute the high and low complexity groups.

Subjects from both high-and low-complexity groups were randomly assigned to one of the four experimental conditions (a) Expected success, (b) Unexpected success, (c) Expected failure, and (d) Unexpected failure.

The experimental task involved substituting digits for specific symbols (for example, X, ?, \$) and adding these digits.

Following a practice trial on the "digit-symbol-substitution and addition" task the subjects were required to indicate the number of problems (out of 20) they expected to get "correct" (in the case of success condition) or "incorrect" (in the case of failure condition). The subjects then worked on the experimental task (involving 20 digit symbol substitution and addition problems) and were given feedback according to the experimental condition to which they were randomly assigned.

After the feedback a questionnaire (Appendix V) was administered which aimed at examining attribution. This

questionnaire was appropriately worded to suit the success and failure sets. Subjects were required to indicate on a rating scale to what extent each of the four alternatives (ability, effort, luck, task) was responsible for the outcome.

Manipulations:

(i) The Nature of the Outcome Manipulation:

(a) Success Condition:

In order to make success salient subjects were asked "How many answers do you expect to get 'correct'?" (A Success Set).

(b) Failure Condition:

The failure was made salient by asking subjects "How many answers do you expect to get 'incorrect'?" (A Failure Set).

(ii) The Outcome Expectation Manipulation:

The outcome expectation was manipulated at the level of feedback and was based on the number of "correct" or "incorrect" answers stated by the subject after the practice trial.

(a) Expected Outcome Condition:

Subjects in this condition were given a score equivalent to their stated number of expected correct or incorrect answers.

(b) Unexpected Outcome Condition:

Subjects in this condition were given a score equivalent to their stated number of "correct" or "incorrect" answers " + 5 " (that is, five more correct answers in the case of success and five more incorrect answers in the case of failure).

Hypothesis:

The expectations regarding the effects of the nature of the outcome and cognitive complexity were based on the results of Study II(B).

In addition, it was proposed that expected outcomes would be attributed to internal factors to a greater extent than the unexpected outcomes (Feather and Simon, 1971(a), and 1971(b)).

The test of the perception of contingency hypothesis was based on an analysis of the extent of internal attribution on each of the alternative causes (Ability, Effort, Luck and Task). It was predicted that if the perception

of contingency hypothesis holds and is responsible for greater internal attribution for positive outcomes, it should be evident in the following manner. In the case of positive outcomes greater internal attribution would be shown on internal factors (Ability and Effort) than on External factors (Luck and Task). In the case of negative outcomes, on the other hand, individuals would see negative outcomes as more contingent upon external factors than on internal factors (Phares, 1976) and demonstrate this by rating external factors as more responsible for the outcome than internal factors, or they would treat both external and internal factors as equally responsible (that is, subjects would perceive non-contingent relationship between the causal alternatives and outcomes).

RESULTS

The expectations reported by subjects in terms of "correct" and "incorrect" answers (in success and failure conditions respectively) were inspected in order to see if success was actually expected to a greater extent than failure. A comparison of the average expected "correct answers" and average expected "incorrect answers" (in both success and failure conditions) showed that subjects' expectations in the success-and-failure-condition did not

differ significantly from each other. In other words, contrary to the expectancy hypothesis, success was not expected more than failure.

Following this preliminary analysis, the "Attribution Questionnaire" was scored for internality and an analysis of variance was carried out to examine the effects of cognitive complexity, Nature of the outcome and Out-come expectation on Internal Attribution on four causal alternatives (Ability, Effort, Luck and Task) separately. The three independent variables were treated as between subject factors and the four causal alternatives were treated as within- subject factors. The results of the analysis of variance are presented in Tables 5(a) and 5(b).

Insert Table 5(a) and 5(b) about here

The major findings of this study were as follows:

- (A) A significant main effect of the nature of the outcome which maintained the trend found in the earlier investigations. Once again, subjects attributed success more internally than failures.
- (B) A significant interaction between cognitive complexity and the nature of the outcome showed that those high on

TABLE 5(a):

Means and Standard deviations of Attribution Questionnaire Scores in high/low Cognitive Complexity, positive/negative outcome, expected/ unexpected outcome groups on four causal alternatives (Ability, Effort Luck and Task).

Negative outcome			Positive outcome		
Unexpected	Expected		Unexpected	Expected	
High-Complexity					
Ability	Effort	Luck	Task	Ability	Effort
$\bar{X} = 4.63$	5.5	3.00	2.38	5.0	5.25
SD= 1.40	0.76	1.31	1.84	.93	1.03
Low-Complexity					
Ability	Effort	Luck	Task	Ability	Effort
$\bar{X} = 4.25$	4.75	3.13	3.63	5.25	5.25
SD= 1.03	1.04	1.36	.92	.89	1.16
High-Complexity					
Ability	Effort	Luck	Task	Ability	Effort
$\bar{X} = 3.25$	3.5	5.25	3.63	3.38	3.13
SD= 1.62	1.69	.71	1.85	1.99	1.36
Low-Complexity					
Ability	Effort	Luck	Task	Ability	Effort
$\bar{X} = 3.63$	3.5	4.25	4.13	2.50	2.61
SD= 1.19	.53	.88	.83	1.07	1.51

TABLE 5(b) : Summary of ANOVA on Attribution Questionnaire Scores (Study-III)

Source	SS	df	MS	F	p
Between	171	63			
A. (Cognitive complexity high/low)	.14	1	.14	1	
B. (Nature of outcome positive/negative)	16.00	1	16.00	6.84	.01
C. (Outcome expectation expected/unexpected)	3.52	1	3.52	1.50	
AB	14.86	1	14.86	6.35	.01
AC	4.00	1	4.00	1.70	
BC	.76	1	.76	1	
ABC	.25	1	.25	1	
SW groups	131.31	56	2.34		
Within	437	192			
D. (Causal alternatives ability/effort Luck/Task)	12.91	3	4.30	2.54	
AD	5.89	3	1.96	1.16	
BD	109.03	3	36.34	21.50	.001
CD	3.01	3	1.00	1	
ACD	7.16	3	2.59	1.41	
BCD	1.15	3	.38	1	
ABD	4.51	3	1.50	1	
ABCD	9.55	3	5.65	3.34	.05
Dx SW groups	284.94	168	1.69		

cognitive complexity did not differ significantly in their attributions of success and failure, whereas low-complexity subjects made a clear distinction between the two kinds of outcomes and made significantly greater internal attribution for positive than for negative outcomes. Moreover, compared to high-complexity subjects, those low on cognitive complexity took significantly more personal credit for success (that is, made internal attributions) while they attributed failure to external factors. This interaction is graphically presented in Figure 2 .

Insert Figure 2 about here

(C) A significant interaction between the nature of the outcome and causal alternatives was in the predicted direction. It was noted that subjects rated internal factors (Ability and Effort) significantly higher than external factors (Luck and Task) while explaining success. In the case of negative outcomes although higher internal attribution was shown in the case of external factors than in the case of internal factors, the difference between the two did not reach a statistically significant level. This interaction is graphically shown in Figure 3 .

Insert Figure 3 about here

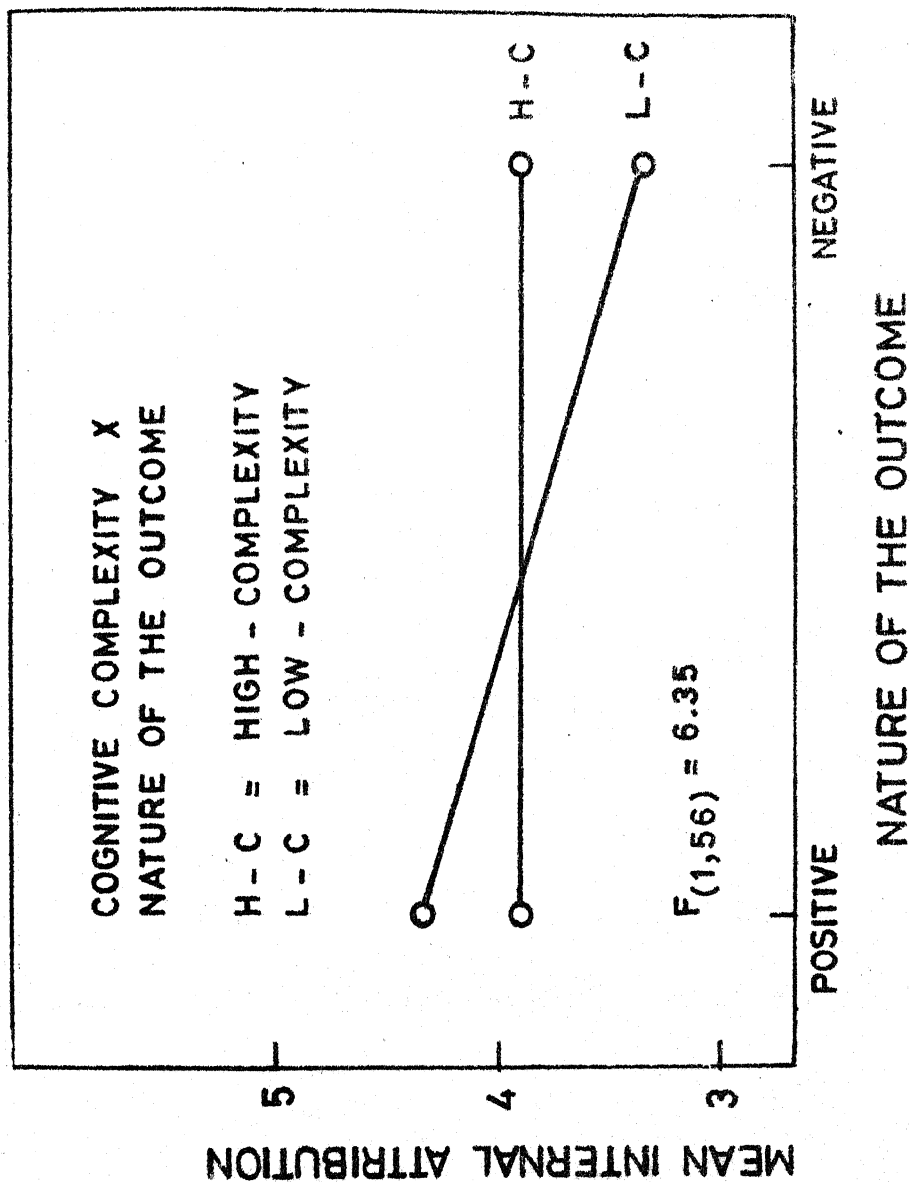


FIG.2 MEAN INTERNAL ATTRIBUTION AS A FUNCTION OF
COGNITIVE COMPLEXITY AND NATURE OF THE
OUTCOME (Study - III)

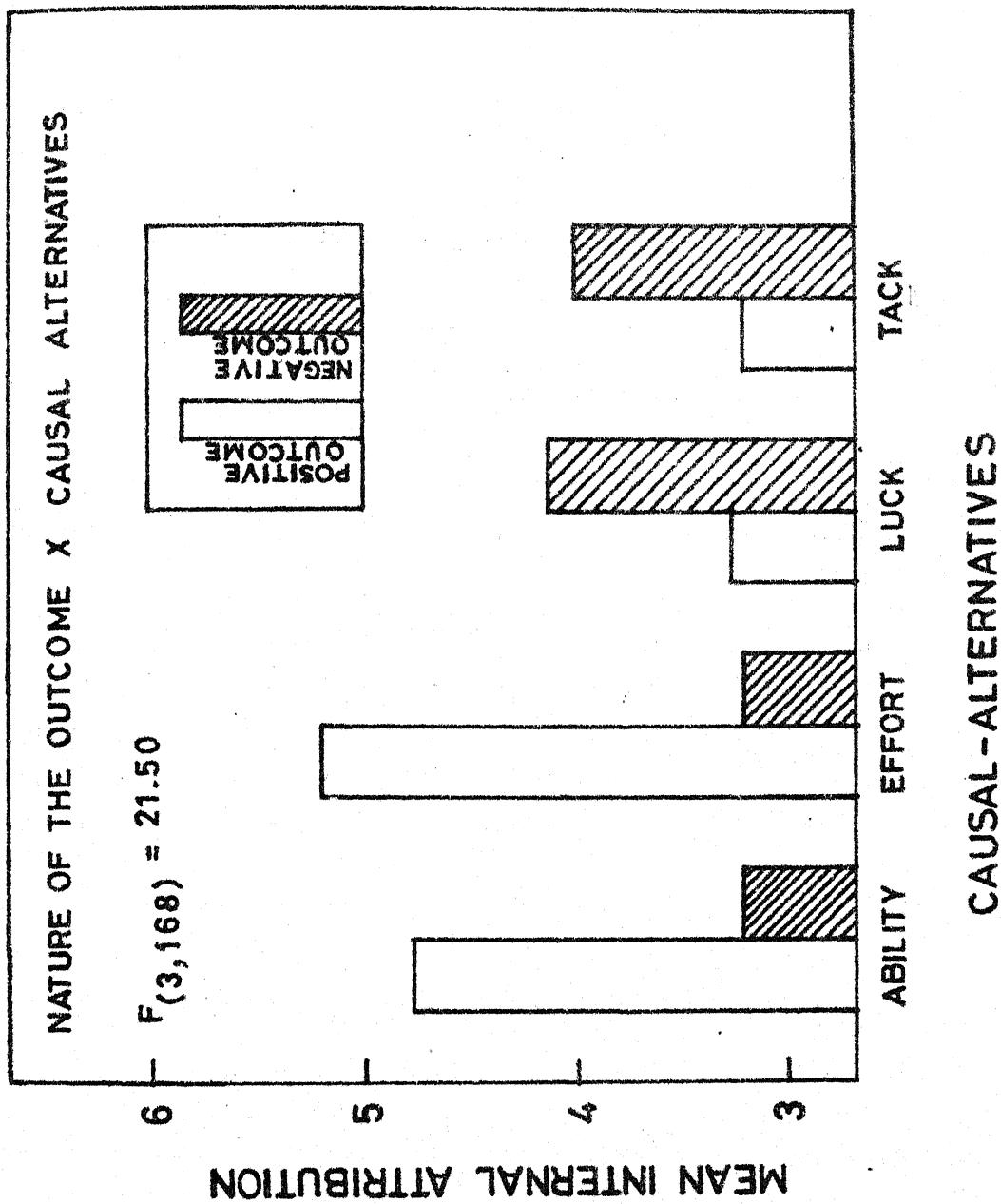


FIG.3 MEAN INTERNAL ATTRIBUTION AS A FUNCTION OF
NATURE OF THE OUTCOME AND CAUSAL
ALTERNATIVES (Study-III)

(D) There was a significant interaction between cognitive complexity, nature of outcome, causal alternatives, and outcome-expectation. This interaction was further analysed to identify the means which differed significantly from each other. Among the internal causal alternatives the highest internal attribution was shown on 'effort' by high complexity subjects in the case of "Expected Positive" outcome and lowest internal attribution on "Ability" by low-complexity subjects in the case of "unexpected negative" outcome. With respect to the external causal alternatives, the highest internality was shown on "luck" by high-complexity individuals in the case of expected negative outcomes and the lowest internality was evident on "Task" by high-complexity individuals in the case of expected positive outcomes.

In general, it appears that positive outcomes are explained more in terms of internal factors (Ability, Effort). The picture is not so clear with respect to negative outcomes. Moreover, no definite trend emerged with respect to cognitive complexity and outcome expectation.

Since the means on different causal alternatives in each causal category did not differ significantly, these means were combined for each causal category (that is, internal and external) and trends in the effects of cognitive complexity and outcome expectation were observed. Figure 4 presents

a graphic representation of the interaction between cognitive complexity, nature of the outcome, outcome expectation and causal categories (Internal/External).

Insert Figure 4 about here

DISCUSSION

The major results of this study will be discussed in this section under certain subheadings.

The Nature of the Outcome main Effect:

The present study had not only sought a verification of the finding that, greater internal attribution is shown in the case of positive than in the case of negative outcome, but also aimed at testing the underlying processes.

The results of the present study supported the earlier findings (Study I, II(A), and II(B)) regarding the effect of the nature of the outcome. Subjects once again, attributed success more internally than failure which could be explained on the basis of the "positivity bias" proposition.

Between the two hypotheses (namely, "outcome-expectation" and "perception of contingency") proposed to

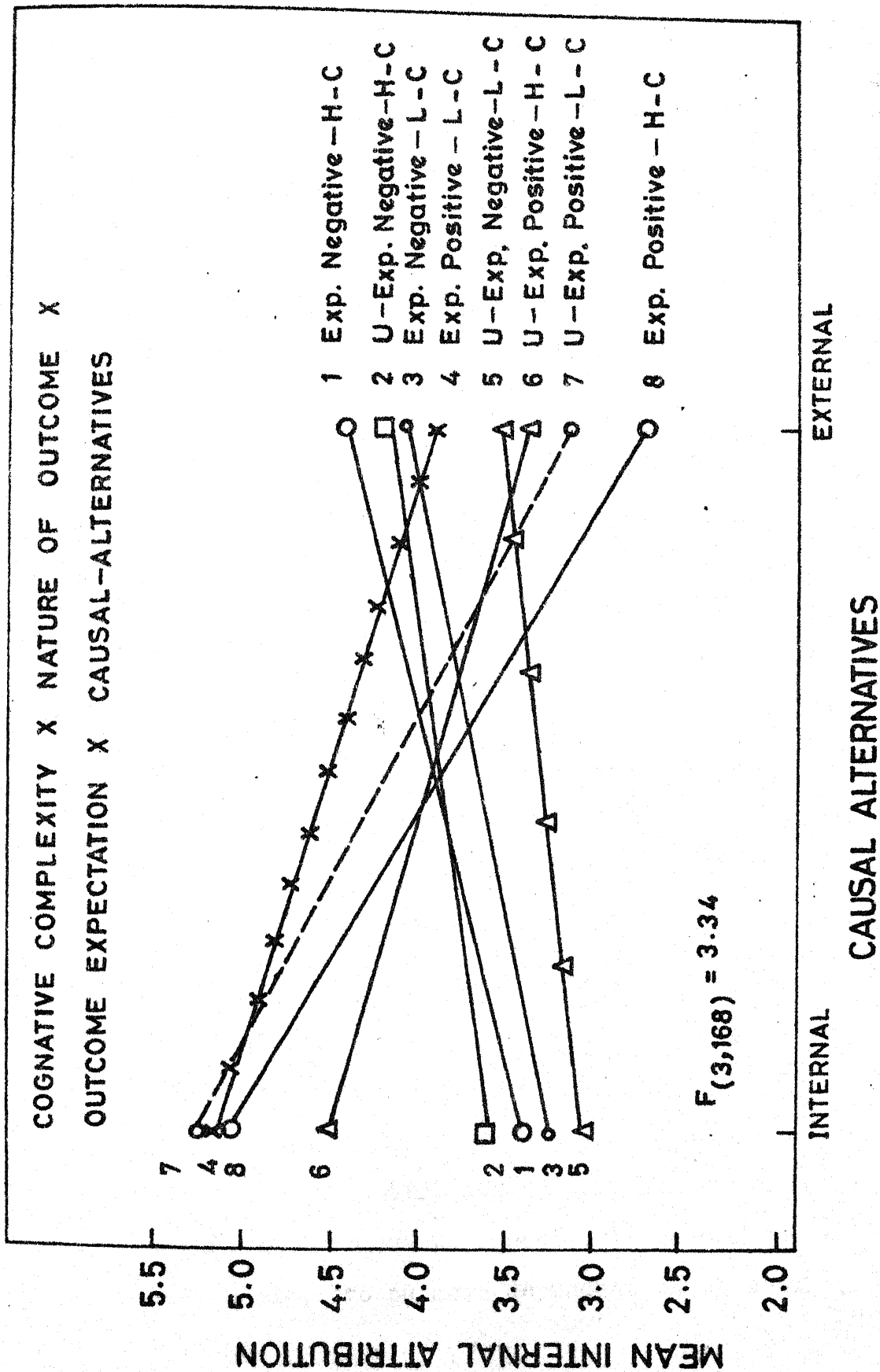


FIG. 4 MEAN INTERNAL ATTRIBUTION AS A FUNCTION OF COGNITIVE COMPLEXITY,
NATURE OF OUTCOME, OUTCOME EXPECTATION AND CAUSAL ALTERNATIVES

underlie the "positivity bias" effect only one (that is, "perception of contingency") obtained support in the present study.

The premises, of the "outcome expectation" hypothesis did not receive support in this study. Neither were the positive outcomes more expected than negative outcomes nor was there a main effect of outcome expectations. A possible reason for this anomaly could be that when asked to report the expectation regarding the number of "correct" or "incorrect" answers, subjects in both conditions viewed the question from the point of view of correct answers. However, while responding, those in the "incorrect" answer condition would have made adjustment (by subtracting the number of correct answers expected from the total) and would have actually responded in terms of the number of incorrect answers expected. A further test of this hypothesis is clearly warranted. ?

On the other hand the findings of this study offered strong support to the "perception of contingency" hypothesis. As shown in internal attributions made on four causal alternatives (Ability, Effort, Luck, and Task), significantly higher internal attributions were exhibited on internal factors in the case of success. In other words, success was perceived to be more dependent on personal (Internal)

factors than on situational (External) factors. As far as negative outcomes were concerned no significant difference was shown by subjects in their attributions on internal and external factors.

The Cognitive Complexity X Nature of the Outcome Interaction:

Consistent with earlier findings of the present research (Study II(B)) the interaction between cognitive complexity and nature of the outcome can be explained by a mediation through self-esteem (See page .68. for detailed discussion). Alternatively, this interaction can also be interpreted in the light of the finding that individuals high on cognitive complexity can combine opposite bits of information more easily (Rosenkrantz and Crockett, 1965) (See page 70 for a detailed discussion).

The Interaction between Cognitive Complexity, Nature of the Outcome, Outcome Expectation and Causal Alternatives:

As pointed out earlier an examination of the means involved in this multiple interaction showed that the means on different causal factors (Ability and Effort on the one hand and Luck and Task on the other hand) within each causal category (Internal/External) did not differ significantly. Therefore, inorder to simplify the picture the means on two causal alternatives in each causal category

low-complexity individuals on expected positive outcomes and expected negative outcomes were second highest and second lowest. The means of high complexity groups were in the middle and did not show any definite pattern.

The prominent tendency shown by individuals low on cognitive complexity can be interpreted in the following manner. Explained on the basis of internal factors (ability, effort), an unexpected positive outcome (i.e. a pleasant surprise) would bring a strong positive affect; whereas, an unexpected negative outcome (i.e. a most unpleasant event) would bring an extremely negative affect. Since individuals low on cognitive complexity are suggested to be concerned about the evaluative (positive/negative) aspects of information to a greater extent than those high on cognitive complexity (Schroder, Driver, Stroufert, 1967), the former would engage in extreme attributions in these extreme situations. A trend in this direction is evident in the form of extreme attributions on internal factors by low complexity individual. The high-complexity individuals formed the middle range of means on internal factors, which showed that they are less affected by the nature (positive/negative) of the information.

No such prominent trend emerged with regard to the internality on external factors. It may suggest that

external factors play less important a role from the point of view of explaining outcomes. A direct test of this possibility would help to clarify this ambiguity.

To summarize, Study III examined the two possible mediators of the positivity bias effect and demonstrated that in the present context it was perception of contingency which appeared to be responsible for a bias towards attributing positive rather than negative outcomes to internal factors.

To recapitulate, the results of these studies demonstrated that the nature of the outcome affected attribution most prominently; in interaction with the nature of the outcome, Cognitive complexity played a role in attribution by pre-adolescents but not by adults.

After examining some situational determinants and a cognitive-personal determinant of attribution the next study sought to examine an aspect of socialization- Perceived Parenting- as a correlate of attribution. The rationale for selecting Perceived Parenting as a correlate is discussed in Chapter 1. The following chapter describes this study.

CHAPTER 4

PARENTAL ANTECEDENTS OF INTERNAL ATTRIBUTION

After examining attribution as affected by cognitive complexity and certain situational variables namely, the nature of the outcome and the role of the attributor, attention was turned^{to} a more long-term determinant of attribution. The study to be described in this chapter is different from other investigations (discussed in Chapter 2 and 3) in two important respects. First, the present study examined a socialization determinant of attribution rather than situational and cognitive- personal determinant (as was done in the preceding five studies). Secondly, considering the design of the study, while the previously described studies were conducted in a sequential fashion to answer questions regarding immediate determinants of attribution, the present study aimed at examining the relationship between a parenting variable and the other factors that were examined in the previous studies. Thus, the investigation to be reported here was not meant to continue the studies reported earlier, but rather was intended to throw some light on yet another correlate of attribution.

As described in chapter 1 there is evidence that indicates the influence of socialization on attribution

(Chance, 1965; Katkovsky, Grandall and Good, 1967; Davis and Phares, 1969; MacDonald, 1971a; Rohner, Chaille and Rohner, 1980; Halpin, Halpin and Whiddon, 1980). It is assumed that belief regarding locus of causality develops through perception of contingencies of reinforcement (Rotter, 1966) and parents are in a position to control these contingencies (MacDonald, 1971a; Nowicki & Segal 1974; Halpin, Halpin and Whiddon, 1980). Thus, among large number of socialization antecedents one variable which needs to be studied is Perceived Parenting (Devercux, Bronfenbrenner, and Rogers, 1969; MacDonald, 1971a; Halpin, Halpin and Whiddon, 1980).

The next investigation in the present research, therefore, examined the Perceived Parenting antecedents of causal attribution.

Perceived Parenting refers to parental attitudes toward children, as perceived by the latter, indicated in the form of behaviour in specific areas of parent- child interaction. Admittedly, perceived parenting and actual parenting may not always show one-to-one correspondance. However, considerable convergence has been reported in literature (Devereux, Bronfenbrenner and Rogers, 1969). In the present context Perceived Parenting consisted of nine parenting factors which are described below.

1. NURTURANCE: The frequency of perceived emotional support and impression of parents' availability in need.
2. INSTRUMENTAL COMPANIONSHIP: The perceived frequency of help from parents in learning and problem solving by the child.
3. PRINCIPLED DISCIPLINE: The extent to which the parents were perceived as explaining why they wanted the child to behave in a particular manner.
4. PREDICTABILITY OF STANDARDS: The frequency with which the child could predict what the parents wanted him/her to do and how they would react if the child failed to meet these requirements.
5. PROTECTIVENESS: The extent to which the parents were perceived as worrying about the physical welfare of the child.
6. PHYSICAL PUNISHMENT: The extent to which the parents were perceived as using physical punishment (for example, spanking and slapping) as corrective measures.
7. ACHIEVEMENT PRESSURE: The extent to which the child perceived the parents as insisting upon a high level of performance in comparison to other children.

8. DEPRIVATION OF PRIVILEGES: The extent to which the parents were perceived as punishing the child by not letting him/her be in contact with an emotionally valued object, be it, human being (for example, a friend) or inanimate object (for instance, toys).
9. AFFECTIVE PUNISHMENT: The extent to which the parents were perceived as nagging, acting cold, indifferent and hurt and trying to make the child feel guilty if he/she did something wrong.

For the sake of convenience, these variables of Perceived Parenting were classified into two categories, namely, 'positive parenting variables' and 'negative parenting variables'. This classification was based on Rohner, Chaille, and Rohners' (1980) concept of "acceptance-rejection". Rohner et.al. (1980) have referred to those parenting variables as positive which give rise to a feeling of acceptance in the child. On the other hand, variables leading to a feeling of rejection are referred to as negative parenting variables. Among the nine variables of Perceived Parenting described above, five can be clearly classified into the categories of positive and negative parenting variables.

Considering the way in which these variables are defined in the present context, "Nurturance", and "Instrumental Companionship" can be considered positive whereas, "Physical Punishment", "Affective Punishment", and "Deprivation of Privileges" can be classified as negative parenting variables.

Such a distinction was not so obvious in the case of "Predictability of Standards", "Principled Discipline", "Protectiveness" and "Achievement Pressure". Intuitively it appears that punishment with justification (high-Principled Discipline) compared to punishment without justification (low-Principled Discipline) will generate more acceptance and therefore, may be classified as a positive parenting. Similarly, compared to an arbitrary environment (low- Predictability of Standards) a systematic environment (high-predictability of Standards) may be expected to be more accepting. "Protectiveness" and "Achievement Pressure", on the other hand, may be classified as negative parenting as they indicate restrictiveness and imposition of external standards.

In short, on the basis of the above discussion, Nurturance, Instrumental Companionship, Principled Discipline and Predictability of Standards were classified as positive parenting variables and Physical Punishment,

Achievement Pressure, Protectiveness, Affective Punishment and Deprivation of Privileges were classified as negative parenting variables.

After classifying the variables of Perceived Parenting it is important to point out that the relationship between these variables and internal attribution was examined in view of cognitive complexity, the nature of the outcome and the sex of the attributor. The studies, reported in the last two chapters showed that these variables are relevant from the point of view of attribution. In addition they also seem to be important from the point of view of parenting.

With respect to cognitive complexity, Harvey et.al. (1961) conceptualized that environmental conditions (especially, the training conditions)affect the development of cognitive complexity. These authors described the training conditions along a dimension, namely, "Interdependent- Unilateral". More specifically, they suggested that an environment which allows the child to explore his surroundings and to be open to feedback (an interdependent environment) will be expected to generate a higher level of differentiation in conceptual system (high cognitive complexity). On the other hand, an environment characterized by too much of external constraints and restrictiveness would be expected to inhibit the development and in turn

lead to a low level of differentiation (low cognitive complexity).

A parallel was drawn between "Interdependent-Unilateral" classification (proposed by Harvey et.al.1961) and "Autonomy- Control" dimension (conceptualized by Schaefer, 1959) by Cross (1966). He dealt with actual training conditions and empirically validated Harvey et. al's. conceptualization. Unlike Cross's study in the present context the attempt was not to deal with actual training conditions but rather, with an aspect of parenting, namely, Perceived Parenting. Since the parents are generally the major training agents who provide conditions for the development of cognitive complexity the parent- child relationship (as perceived by the child) also may be expected to be related to the development of cognitive complexity.

With regard to the nature of the outcome as a correlate or determinant of attribution it has been unambiguously established that the nature of attribution depends upon whether the outcome is positive or negative (Frieze, 1980). An examination of parental antecedents and differences in attribution of positive and negative outcome may be considered worthwhile for more than one reason. First, in the research dealing with socialization, at least one factor responsible for the attribution of the two kinds outcome

With respect to the sex of the child, literature shows that males and females, differ in the way they explain success and failure (Bar-Tal and Frieze, 1977; Dweck and Repucci, 1973; Feather, 1969; Simon and Feather, 1973; Wiegers and Frieze, 1977). Specifically, it is reported that males attribute success to internal factors and explain failure on the basis of external factors. Females, however, do the opposite. Sex-differences in attribution of success and failure have often been explained in terms of sex-roles. It is observed that while males are socialized for competence, it is discouraged in females (Barry, Bacon and Child, 1957). Differential expectancies regarding success and failure result from such socialization of males and females which leads to differential attribution of success and failure by the two sexes (Etaugh and Brown, 1975).

Considering the sex of the parent although the literature is not abundant, there is some evidence to suggest that mothers and fathers are perceived differently with respect to a number of parenting variables (Devereux, Bronfenbrenner and Rogers, 1969; MacDonald, 1971a). In addition, it is shown that parenting of mothers and fathers varies in its effect on perceived causality among male and female child (Katkovsky, Crondall and Good, 1967).

Thus, it was expected that the sex of the parent, in conjunction with the sex of the child, would modify the relationship between perceived parenting and attribution.

To summarize, this study aimed at investigating the relationship between Perceived Parenting and attribution taking into account cognitive complexity, the sex of the subject, the sex of the parent and the nature of the outcome. The specific predictions regarding the relationship between variables mentioned above would follow in the subsequent section.

Hypotheses:

A. Perceived Parenting and Cognitive Complexity:

It was expected that positive parenting variables (namely, Nurturance, Instrumental Companionship, Principled Discipline and Predictability of Standards) would be related positively to cognitive complexity whereas a negative association was expected between cognitive complexity and negative parenting variables (namely, protectiveness, Physical Punishment, Achievement Pressure, Affective Punishment, Deprivation of Privileges).

These expectations were based on Cross (1966) findings that "intrinsic-acceptance" by parents is positively

related to cognitive complexity.

B. The Nature of the Outcome:

Consistent with earlier findings it was expected that:

- (a) higher internal attribution would be evident in the case of positive than in the case of negative outcomes as found in Study I, II(a), II(b), and III and in keeping with the "positivity bias" hypothesis.
- (b) the nature of the outcome would interact with cognitive complexity to affect attribution (consistent with the findings of Study II(b) and III).

C. Perceived Parenting and Internal Attribution:

It was expected that there would be a positive association between positive parenting variables and internal attribution and reverse would be true in the case of negative outcomes (in keeping with the existing view on parenting and internal attribution, (Lefcourt, 1976)).

This relationship, however, was expected to be modified by the nature of the outcome, the sex of the attributor and the sex of the parent.

D. Perceived Parenting and Sex Differences:

Differences were expected between maternal and paternal parenting as perceived by the subject. These expectations were based on Devereux et.al.'s (1969) findings.

An attempt was made to examine these expectations in the following study.

METHOD

Subjects:

Ninety school children, ranging in age between 11 to 13 years , served as subjects in this study.

Procedure:

As in the earlier studies cognitive complexity was measured with the help of Scott's object sorting test. Attribution and Perceived Parenting were measured by the "Intellectual Achievement Responsibility Scale" and "Perceived Parenting Questionnaire" respectively. The last-mentioned tool was administered twice, once to study perceived parenting with respect to the father and the second time, with regard to the mother.

RESULTS AND DISCUSSION

Cognitive complexity scores were obtained following the earlier procedure. Three scores on the I.A.R. Scale were obtained. These were: I^+ (Internality for positive outcomes) I^- (Internality for negative outcomes) and I -Total (Total Internality Score). With regard to Perceived Parenting, separate scores were obtained for each of the nine factors in the P.P.Q. for the father and the mother.

The means and standard deviations on the P.P.Q. variables as related to the sex of the parent and sex of the child, are presented in Table 6.

Insert Table 6 about here

Multiple correlations were computed to see the relationship between Perceived Parenting and attribution. The relationships between Perceived Parenting and cognitive complexity were also examined. In order to have additional information regarding the relationship between these variables, a comparison was made between the mean scores of those scoring high and those scoring low (based on a median split) on each of the parenting variable. Table 7(a), 7(b), 7(c) and 7(d) present the results of multiple correlations. Mean comparisons are presented in Table 8.

Insert Tables 7(a), 7(b), 7(c), 7(d) and 8 about here

TABLE 6 : Means and Standard deviations on P.P.Q. Variables as a function of the sex of the child and the sex of the parent.

P.P.Q. Variables	BOY			GIRLS		
	Father X	SD	Mother X	Father X	SD	Mother X
						SD
						P
NURTURANCE	8.46	1.66	8.88	7.53	2.09	7.78
			1.09			2.12
INSTRUMENTAL COMPANIONSHIP	7.84	2.25	6.68	7.64	2.04	6.56
			2.89			2.72
PRINCIPLED DISCIPLINE	7.51	1.82	7.46	7.16	2.26	7.18
			1.83			2.18
PREDICTABILITY OF STANDARDS	7.29	1.84	7.24	6.96	1.99	7.16
			1.79			2.29
PROTECTIVENESS	5.28	1.56	7.42	5.58	2.27	6.50
			1.49			2.14
PHYSICAL PUNISHMENT	3.64	1.90	3.86	3.09	2.009	3.71
			.33			2.18
ACHIEVEMENT PRESSURE	7.13	2.32	7.73	6.56	2.39	6.98
			1.88			2.45
DEPRIVATION OF PRIVILEGES	3.18	1.73	2.93	2.96	1.68	3.6
			1.54			1.88
AFFECTIVE PUNISHMENT	12.11	4.17	12.31	10.62	4.08	12.07
			3.83			3.98
						.01

TABLE 7(a) : Correlations between Cognitive Complexity, I⁺, I⁻, I-total and perceived Parenting of Father by male subjects.

	Nurtur- ence	Instru- mental compan- ionship	Princi- pled discip- line	Predict- ability of Stan- dards	Protoc- tiveness	Physical punish- ment	Achieve- ment pressure	Depriva- tion of privile- ges	Affective punishment
COGNITIVE COMPLEXITY	- 0.01	- 0.18	+ 0.0005	+ 0.18	+ 0.09	+ 0.09	+ 0.12	+ 0.29*	+ 0.15
INTERNALITY FOR POSITIVE OUTCOME	+ 0.21	+ 0.09	+ 0.20	+ 0.27	+ 0.053	- 0.09	- 0.21	- 0.015	- 0.04
INTERNALITY FOR NEGATIVE OUTCOME	+ 0.02	+ 0.114	- 0.017	- 0.05	+ 0.013	+ 0.19	+ 0.02	+ 0.29*	+ 0.41**
TOTAL INTERNALITY	- 0.21	- 0.18	- 0.06	+ 0.113	+ 0.22	+ 0.001	- 0.12	+ 0.011	+ 0.23

* p < .05.

** p < .01.

TABLE 7(b) : Correlations between Cognitive Complexity, I⁺, I⁻, I-total and perceived Parenting of Mother by male subjects.

Nurtur- ence	Instru- mental companion- ship	Trinci- pled disci- pline	Predict- ability of sta- ndards	Protector- tiveness	Physical punish- ment	Achieve- ment press- ure	Depriva- tion of privile- ges.	Affective punishment
COGNITIVE COMPLEXITY	- 0.02	- 0.122	+ 0.042	+ 0.233	+ 0.06	+ 0.16	+ 0.03	- 0.116
INTERNALITY FOR POSITIVE OUTCOME	+ 0.12	+ 0.13	+ 0.19	+ 0.34 ^{**}	- 0.12	+ 0.22	- 0.08	- 0.24
INTERNALITY FOR NEGATIVE OUTCOME	+ 0.02	+ 0.137	+ 0.033	+ 0.17	+ 0.08	+ 0.22	+ 0.13	+ 0.11
TOTAL INTERNALITY	+ 0.05	+ 0.15	- 0.112	+ 0.32 [*]	+ 0.007	+ 0.022	+ 0.03	+ 0.23

* p < .05

** p < .01

TABLE 7(c) : Correlations between Cognitive Complexity, I⁺, I⁻, I-total and perceived Parenting of Fathers by female subjects.

	Nurtur- ence	Instru- mental companion- ship line	Princi- pled discip- line	Predict- ability of Stan- dards	Protect- iveness	Physical punish- ment	Achieve- ment pressure	Depriva- tion of privile- ges	Affective punishment
COGNITIVE COMPLEXITY	- 0.05	- 0.18	- 0.25	+ 0.006	- 0.116	+ 0.044	- 0.10	+ 0.17	+ 0.23
INTERNALITY FOR POSITIVE OUTCOME	+ 0.14	+ 0.23	+ 0.22	- 0.05	- 0.18	- 0.15	- 0.112	- 0.16	- 0.11
INTERNALITY FOR NEGATIVE OUTCOME	+ 0.22	+ 0.003	+ 0.07	+ 0.09	+ 0.15	+ 0.10	+ 0.03	- 0.09	- 0.15
TOTAL INTERNALITY	- 0.23	+ 0.14	+ 0.26	- 0.04	- 0.16	- 0.06	- 0.20	+ 0.21	+ 0.12

* p < .05
** p < .01

TABLE 7(d) : Correlation between Cognitive Complexity, I⁺, I⁻, I- total and perceived Parenting of Mothers by female subjects.

	Nurtur- ence	Instru- mental compani- onship	Princi- pled disol pline	Predict- ability of Stan- dards	Protect- iveness punish- ment	Physical punish- ment	Achieve- ment press- ure	Depriva- tion of privileges	Affective punishment
COGNITIVE COMPLEXITY	- 0.115	+ 0.0658	+ 0.27	+ 0.128	+ 0.035	- 0.196	- 0.033	- 0.11	- 0.12
INTERNALITY FOR POSITIVE OUTCOME	0.102	+ 0.042	- 0.29*	- 0.06	- 0.126	+ 0.029	- 0.066	+ 0.19	+ 0.195
INTERNALITY FOR NEGATIVE OUTCOME	+ 0.41**	- 0.046	+ 0.128	+ 0.29*	+ 0.24	+ 0.089	- 0.026	- 0.21	+ 0.127
TOTAL INTERNALITY	+ 0.37**	+ 0.12	+ 0.21	- 0.11	- 0.05	- 0.09	+ 0.24	+ 0.014	+ 0.123

* p < .05

** p < .01

(TABLE 5 continued)

Nature of outcome	Sex	FATHER		F. Ratio df=1,70	MOTHER		F. Ratio df=1,73
		Hi	Lo		Hi	Lo	
POSITIVE	MALE	$\bar{X} = 12.52$ SD= 2.50 (21)	$\bar{X} = 13.4$ SD= 2.03 (15)		$\bar{X} = 12.8$ SD= 2.58 (20)	$\bar{X} = 13.67$ SD= 1.85 (21)	
	FEMALE	$\bar{X} = 12.8$ SD= 2.90 (15)	$\bar{X} = 13.61$ SD= 2.37 (23)		$\bar{X} = 12.86$ SD= 2.73 (21)	$\bar{X} = 13.87$ SD= 2.33 (15)	
NEGATIVE	MALE	$\bar{X} = 10.9$ SD= 3.08 (21)	$\bar{X} = 9.47$ SD= 2.95 (15)		$\bar{X} = 9.65$ SD= 3.36 (20)	$\bar{X} = 10.29$ SD= 3.21 (21)	
	FEMALE	$\bar{X} = 10.8$ SD= 3.53 (15)	$\bar{X} = 11.22$ SD= 3.16 (23)		$\bar{X} = 11.81$ SD= 3.23 (21)	$\bar{X} = 11.53$ SD= 2.83 (15)	
AFFECTIVE PUNISHMENT (A)				1			3.57 ^x
NATURE OF OUTCOME (B)				45.39 ^{**}			20.82 ^{**}
SEX OF ATTRIBUTOR (C)				1			1.20
AB				1			1
AC				3.42			1
BC				1			6.04 [*]
ABC				2.00			1

Note: (Numbers in parantheses represent cell frequencies).

$x = p > .05$

$* = p < .05$

$** = p < .001/p = .01.$

The major results of the present study are discussed below:

1. Perceived Parenting and Cognitive Complexity:

The results of the multiple correlations demonstrated a general lack of a significant relationship between the variables of Perceived Parenting and cognitive complexity. The only correlation which reached a level of statistical significance was that between Deprivation of Privileges (Paternal) and cognitive complexity in boys. It was found that there was a positive and significant correlation between cognitive complexity of boys and Paternal Deprivation of Privileges.

This correlation is contrary to the expectation that negative parenting such as, Deprivation of Privileges would relate negatively to cognitive complexity. However, this relationship appears some what meaningful if a motivational correlate of cognitive complexity, namely, self-esteem, is considered. Leventhal and Singer (1964) have demonstrated a negative correlation between cognitive complexity and self-esteem. According to Rohner (1980) Deprivation of Privileges (leading to a feeling of rejection) would be related to low self-esteem. Following this line of reasoning it may be expected that cognitive complexity would be positively correlated with Deprivation of Privilege

Excluding the significant correlation discussed in the paragraphs above, the general lack of a significant relationship between cognitive complexity and Perceived Parenting is rather puzzling. However, in the absence of sufficient empirical work on Perceived Parenting antecedents of cognitive complexity, any definite statement would be pre-mature.

B. Nature of the Outcome, Cognitive Complexity and Attribution:

As expected higher internal attribution was shown in the case of positive outcomes than in the case of negative outcomes. In addition, cognitive complexity was once again found to be related to attribution. Although there was no significant relationship between cognitive complexity and I^+ , there was a significant positive correlation between cognitive complexity and I^- .

A comparison of means of high- and low- complexity subjects revealed that although there was no significant difference between high- and low- complexity group means on I^+ , the high- complexity subjects showed high I^- compared to the low- complexity subjects. In addition, the difference between I^+ and I^- means of high complexity subjects was smaller than those of low- complexity subjects.

The greater internality shown in the case of positive outcomes than in the case of negative outcomes was interpreted in terms of "Positivity Bias" (see Chapter-3 p. 71 for detailed discussion). The relationship between cognitive complexity and attribution as mediated by the nature of the outcome could possibly be explained on the one hand in terms of the difference in self-esteem of high- and low- complexity subjects, on the other hand in terms of the differences in the ease with which high- and low- complexity individuals can combine contradictory bits of information (see Chapter-3 p. 68 for a detailed discussion).

C. Perceived Parenting and Attribution:

Compared to an observed lack of significance of perceived parenting in cognitive complexity, perceived parenting figured prominently in the case of attribution.

The significant correlations were with respect to Nurturance, Predictability of Standards, Principled Discipline, Deprivation of Privileges and Affective Punishment. Maternal Nurturance (in girls) was positively and significantly related to I^- total and I^- . Maternal Predictability of standards (in both sexes) showed a positive association with I^- total. However, this relationship was prominent for I^+ in boys and I^- in girls. Maternal

Principled Discipline (in girls) was found to be related to I^+ in a negative direction. Paternal Deprivation of Privileges and Affective Punishment (in boys) on the other hand correlated positively with I^- .

More interesting patterns of relationships emerged when comparisons were made between the group scoring high and the group scoring low on different parenting variables.

Paternal Nurture (in both sexes) was related to $Hi - I$ (Total Internality). Paternal Principled Discipline (in both sexes) was related to $Hi - I$ but the relationship was more prominent in the case of I^+ than in the case of I^- . Paternal Protectiveness (in both sexes) interacted with the nature of the outcome. That is, those perceiving more of Protectiveness in their fathers showed lower I^+ and higher I^- compared to those who perceived a smaller extent of the same. Maternal Protectiveness interacted with both the sex of the subject and the nature of the outcome. In the case of boys, those high on Maternal Protectiveness compared to those low on the same, showed lower I^+ and higher I^- . In the case of girls, however, those perceiving a greater amount of Maternal Protectiveness compared to those perceiving a smaller amount of the same showed both higher I^+ and higher I^- . Paternal Achievement Pressure

made no difference in I^+ in either sex but a high I^- was associated with high level of this variable.

Two variables which did not show any relationship with attribution were Instrumental companionship and Physical Punishment.

The results of this study showed that as expected both positive and negative parenting variables were related to attribution significantly. Although the total number of correlations between perceived parenting and attribution was not large, incorporated with the information obtained from mean comparisons, the nature of the relationship was informative. Among the variables proposed as mediating, the relationship between Perceived Parenting, the nature of the outcome figured prominently. Therefore, the discussion will be carried out from the point of view of the nature of the outcome.

It was found that positive parenting variables were associated with high internality for positive outcomes, low internality for negative outcomes and surprisingly in some cases with high internality for negative outcomes. The negative parenting variables on the other hand were found to be related to low internality for positive outcomes and high internality for negative outcomes. These relationships can be plausibly explained in terms of a mediation by

self-esteem. Rohner (1980) conceptualized a relationship between parenting and self-esteem, suggesting that positive parenting variables (leading to a feeling of acceptance) give rise to a positive self-esteem. Negative parenting variable on the contrary (leading to a feeling of rejection) generate a negative self-esteem. Fitch (1970), in addition, demonstrated a direct relationship between self-esteem of the individual and his/her attribution for positive and negative outcomes. He showed that high self-esteem individuals take credit for success and deny responsibility for failure, and low self-esteem individuals take credit for failure and deny responsibility for success.

Following Rohner's (1980) proposal and Fitch's (1970) findings it would be expected that positive parenting would be related to high internality for success and low internality for failure. By the same reasoning, negative parenting variables, would be related to low internality for positive outcomes and high internality for negative outcomes. The results of this study were generally in keeping with these expectations. However, in addition, a positive relationship between positive parenting and high internality for negative outcomes was obtained indicating that high internality for negative outcomes may in some circumstances be associated with both positive and negative parenting variables.

It is worthwhile to point out here that high internality for negative outcomes associated with positive parenting and similar attribution associated with negative parenting may differ with respect to the underlying dynamics. While high internal attribution for negative outcomes shown by those reporting high negative parenting may be self derogatory, taking responsibility for negative outcomes by those reporting high positive parenting may not indicate self-derogation. Such an explanation, however, needs to be further examined.

D. Sex Differences in P.P.Q. Means:

Contrary to expectations most of the P.P.Q. means (related to either sex of the child or the sex of the parent) were not significantly different. However, certain trends were visible. First, it was noted that, in general, boys tended to give higher ratings on all parenting variables (except for maternal Deprivation of Privileges) compared to girls. This may simply indicate a sex difference in responsiveness to situations of perceived parenting. Secondly, with respect to the sex of the parent, there was a tendency for children to give higher ratings to mothers than to fathers on all parenting variables (except on Instrumental companionship and Principled discipline). Such a trend appears to be in keeping with that reported by Devereux et.al. (1969), and

may be due to the fact that mothers are more prominent as a socializing agent than fathers.

In summary, the results of the investigation reported above, which examined the relationship between Perceived Parenting and attribution in the light of cognitive complexity, the nature of the outcome, the sex of the child and the sex of the parent, led to the following observations.

In general, Perceived Parenting did not appear to be a very powerful correlate of cognitive complexity. In this connection it was suggested that perhaps more direct measures of parenting (for example, direct observations in situations of parent-child interaction) would help in delineating the true relationship between parenting and cognitive complexity.

Contrary to the negligible role played by perceived parenting in cognitive complexity, perceived parenting appeared to be an important correlate of attribution. Moderated by the nature of the outcome, there were certain significant relationships between perceived parenting and attribution. More specifically, it was observed that positive parenting was related to high internal attribution for positive outcomes and low internal attribution for negative outcomes. The reverse occurred in the case of

negative parenting variables. More interesting was the evidence of the relationship between positive parenting and high internal attribution for negative outcomes. All these relationships were explained with the help of self-esteem. In addition, a possible difference in the underlying dynamics of high internal attribution for negative outcomes being associated with positive parenting and negative parenting, was pointed out.

Before closing the chapter, it will be relevant to point out that a parallel study of parenting antecedents of attribution with adults would be informative. There were two basic reasons for testing only pre-adolescents in the present research. First, it was felt that distortions in the perceived parenting reports due to time-lag will be smaller in the case of pre-adolescents than adults. Secondly, since pre-adolescents would still be in more contact with their parents compared to young adults, the former were expected to represent parenting more closely.

To recapitulate, the study reported in this chapter examined the relationship between perceived parenting and attribution in view of cognitive complexity, nature of the outcome, sex of the child and the sex of the parent. While cognitive complexity, sex of the child and the sex of the parent did not affect the relationship between perceived

parenting and attribution, this relationship was remarkably modified by the nature of the outcome.

The following chapter (Chapter 5) will summarize the findings of this research in a global perspective. In addition, important methodological, theoretical and cross-cultural implications of this research will be discussed.

DETERMINANTS OF ATTRIBUTION: AN INTEGRATED OVERVIEW,
IMPLICATIONS AND COMMENTS

The preceding chapters described investigations which examined certain determinants of attribution process, namely, cognitive complexity and the nature of the outcome. In addition, the effect of the role of the attributor, sex differences, and a socialization antecedent, namely, perceived parenting was also considered. The present chapter will highlight some of the important implications of the major findings. A brief review of the major findings of the research reported will facilitate a discussion of their implications. Before actually reviewing the findings and discussing their implications it would be important to make certain general comments in order to place the thesis in an appropriate perspective.

GENERAL COMMENTS:

First, the use of the phrase "effect of" in the present thesis in the context of the determinants of causal attribution is not meant strictly to refer to a unilateral causal relationship. Although in some cases the study followed an experimental method, most of the investigations in the present research should be considered correlational

than causal. It was mainly in terms of a sequential relationship conceptualized between what were considered independent variables (namely, cognitive complexity, nature of the outcome and perceived parenting) and the dependent variable (attribution) that an use of analysis of variance as a statistical method was justified. Therefore, inference of any causal relationship on the basis of the present findings would be misleading.

Secondly, with respect to the study which examined the perceived parenting correlates of attribution, as has been mentioned in the introductory section of chapter 4, it differed from other studies of the present research both with respect to the aim and focus. Specifically, this study did not mean to continue the series of studies which were designed to answer specific questions regarding certain immediate determinants of attribution (namely, cognitive complexity and nature of outcome); but rather, it examined the effect of a long term socialization determinant (namely, perceived parenting). The inclusion of this study was considered worthwhile in view of its informative value. Not only did this study explore the relationship between perceived parenting, cognitive complexity and attribution, but it also helped to delineate the role of a situational variable namely, the nature of the outcome in determining the relationship between perceived

parenting and attribution.

Moreover, a question may arise whether to consider the attribution tools used in these investigations as indicative of situational attribution or as a measure of locus of control as they may be treated as both. The reason for using such tools was mainly to overcome the criticism that typical attribution does not consider the stable aspects of the person (for instance, causal belief) (Ajzen, 1977) and that locus of control should be assessed in a situation-specific manner (Gilmore and Reid, 1979). Such an approach would be expected to contribute to the generality of the present findings.

OVERVIEW OF THE RESULTS

1. Cognitive complexity by itself did not affect attribution in a simple way, however, it did interact significantly with the nature of the outcome. In other words, the prediction that high-complexity individuals would make less extreme attributions compared to low-complexity individuals, which was based on Schroder et.al.'s (1967) conceptualization, was consistently absent in all investigations. This may be an indication that a cognitive-personal variable such as cognitive complexity most probably acts only in conjunction with other variables to

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affect a cognitive process, such as, attribution.

2. With regard to the nature of the outcome, positive outcomes were attributed more internally than negative outcomes. Such a finding was in keeping with the expectations based on a motivational concept of "self-esteem" (Hastorf, Schneider, and Polefka, 1970) and a cognitive concept of "positivity bias" (Skinner, 1971; Frieze and Weiner, 1971). Compared to all other variables investigated in the present research the nature of the outcome was found to affect attribution most prominently. A direct test of the two possible mediators of the positivity bias, namely, "outcome expectation hypothesis" and "perception of contingency hypothesis" was made. While the outcome expectation hypothesis could not be properly examined (probably due to procedural factors) unambiguous support was obtained for the perception of contingency hypothesis. In other words, it was found that greater internal attribution of positive than of negative outcomes was because subjects perceived a contingency between positive outcomes and internal factors, but not between negative outcomes and internal factors.

3. Cognitive complexity and nature of the outcome interacted significantly to affect attribution. This finding was explained in terms of the proposition that high-

complexity individuals can incorporate contradictory bits of information more easily than low-complexity individuals can (Rosenkrantz and Crockett, 1965). In the present context the information about positive and negative outcomes were incompatible; therefore, the low-complexity individuals would have found it difficult to combine the two kinds of information and showed greater distinction between the two with respect to attribution, compared to high-complexity individuals. It is important to note here that this interaction was obtained in the case of pre-adolescents, and not in the case of adults.

The presence of an interaction between cognitive complexity and nature of the outcome in pre-adolescents and its absence in young adults was interpreted within the framework of "Interactive Complexity Theory" (Streufert and Streufert, 1978). The interactive complexity theory proposes that in order that differences in high-and-low-complexity emerge, there should be an optimal level of complexity of information present. It may be suggested here that probably due to the differences in the nature of social experiences individuals belonging to the two age groups go through, the optimum level of complexity of information takes a higher value for adults compared to pre-adolescent. In the present context, on the basis of the

possibility mentioned above, it was speculated that "information load" (one dimension of complexity of information) reached an optimal level for pre-adolescents but not for adults. This possibility needs to be further investigated.

4. With respect to perceived parenting, a correlate of internal attribution, it was found that positive parenting was related to high internal attribution for positive outcomes and low internal attribution for negative outcomes, while negative parenting was related to low internality for positive outcomes and high internality for negative outcomes. These findings were in accordance with the expectations (based on Fitch's (1970) findings and the conceptualization of Rohmer et.al. (1980)) following self-esteem as a mediator of the relationship between perceived parenting and attribution.

An additional unexpected feature of these findings was that high internal attribution for negative outcomes was also associated with some of the positive parenting variables. Apparently, this aspect of the findings was not quite in keeping with the prediction based on self-esteem as a mediator. However, since it is difficult to think of positive parenting generating low self-esteem, it seems more plausible to suggest that the observed

association between high internal attribution for negative outcomes and positive parenting variable was mediated by low self-esteem.

With respect to cognitive complexity, there was no significant relationship between perceived parenting and the complexity level of the individuals. This was contrary to expectations stemming from previous literature (Cross, 1966). Possibly, the likelihood of the predicted relationship emerging is greater when actual rather than perceived parenting is studied.

Considering the role of the attributor (self versus other) greater internality was shown in the case of other-attribution (Study I). The sex of the attributor interacted with the nature of the outcome; males took significantly greater responsibility for negative outcomes than females while they did not differ with respect to positive outcomes. Most of the expectations with regard to these two variables did not hold; nor did they show any particularly interesting pattern.

IMPLICATIONS OF THE PRESENT RESEARCH

Having pointed out the major features of the present research, we may now consider the implications of the findings for the theory, practice and method with respect

literature, at the outset the present research did not make a distinction between the relative importance of the role played by information characteristics and cognitive-personal variables. However, the results of the present series of studies demonstrated, first, that a situational factor (namely, nature of the outcome) was a much more significant determinant of the attribution than any other variable examined in this research. Moreover, the only cognitive-personal factor included in the present research did not affect attribution independently of the nature of the outcome. A suggestion in this connection is that informational complexity may be a major factor modifying the effect of cognitive complexity on attribution. The interactive influence just described of the nature of the outcome, cognitive complexity and, possibly, complexity of information would imply that a more complete theorization regarding the processing of information in attribution is possible only when information is viewed multi-dimensionally, and seen in conjunction with cognitive-personal variables.

A second theoretical implication of the present findings emerge from the interaction between cognitive complexity and nature of the outcome. Such an interaction which occurred in the case of pre-adolescents but not in the case of adults suggests that while there may be other factors which may modify the effect of cognitive complexity

on attribution, age appears to be one such variable. Such a finding raises an important issue for developmental research: it raises the question of studying attribution adopting an age-bound approach or of adopting a life-span approach to cognitive development.

On the basis of the findings of the present research it may be proposed that following cognitive-developmental theorists (Harvey, Hunt and Sdnoder, 1961; Piaget, 1950) there may not be differences in the level of cognitive complexity and cognitive differentiation at different age levels after the peak in cognitive development is achieved; however, due to differences in social experiences after cognitive development has reached its peak, individuals at different age levels may still differ with respect to the way in which they approach certain cognitive tasks (for example, causal attribution).

The existing literature dealing with the relationship between parenting and attribution suggests a positive relationship between positive parenting and high internality and an association between negative parenting and low internality without explicitly taking into account the nature of the outcome. Therefore, high internality may be interpreted as high internality for both positive and negative outcomes and low internality may mean low internality

for both positive and negative outcomes. In the present research the nature of the outcome was taken into account along with two separate findings (Fitch, 1970; Rohner et.al. 1980) regarding self-esteem which appeared to be a possible mediator of the relationship between parenting and attribution. Following this, different predictions were made regarding the relationship between perceived parenting and attribution for positive and negative outcomes. While all other predictions in this connection were borne out, the positive relationship between positive parenting and high internality for negative outcomes was unexpected. On the basis of the findings of this research it can be suggested that high internal attribution for negative outcomes could result from both positive and negative parenting and therefore, from both high and low self-esteem. Therefore, it will be relevant to examine the possible differences between high internality for negative outcomes resulting from positive and those resulting from negative parenting variables.

B. Practical Implications:

Significant practical implications of the finding that positive outcomes are attributed more internally because they are perceived as contingent upon internal

factors, can be pointed out in two specific areas namely, achievement behavior and emotional adaptation. In the context of achievement behavior it is suggested that perceiving negative outcomes as caused by external forces makes the outcome non-informative and personally irrelevant (Weiner, 1972). In other words, the involvement with the outcome decreases as the outcome is ascribed to external causes. According to Weiner (1972), in the context of achievement behavior, attributing negative outcomes to external forces may be emotionally adaptive but from the point of view of future action it may be unadaptive. Therefore, to the extent that striving for success may be valued, perceiving a contingency between negative outcomes and internal factors (especially, Effort) would be imperative. Contrary to this, in a situation where emotional adaptation is valued more than striving for achievement, perception of non-contingent relationship between negative outcomes and internal factors would be ideal. A suggestion can be made here that by making people perceive contingency or non-contingency depending on the requirement of adjustment, best adaptation to the situation may be attained.

C. Methodological Implications:

Methodologically speaking the most important suggestion which can be made on the basis of the present

research is that many ambiguities regarding the role of cognitive- personal determinants of attribution (for example, cognitive complexity) can most probably be resolved by introducing the informational complexity as an additional dimension. This can be done by experimentally manipulating the three dimensions (namely, eucity, noxity and information load) (Streufert and Streufert, 1978) of informational complexity.

Secondly, considering the nature of attribution task, the present research similar to the study by Streufert and Streufert (1969), employed only processing of information, whereas Mann's (1979) study used both seeking and processing information in causal ascription. It can be noted that the two kinds of studies showed different results. While there was an interaction between cognitive complexity and nature of the outcome obtained in both Streufert and Streufert's study, and some of the studies of the present research, Mann's research showed a main effect of cognitive complexity on attribution. A direct comparison of the two kinds of attribution situations may help resolving the controversy regarding the role of cognitive complexity in attribution of causality.

In connection with the failure to examine the outcome expectation hypothesis, it was suspected that subjects

viewed the questions regarding their expectations about success and failure only from the point of view of success. In order to overcome this problem a within subject design with parallel forms of the experimental task may be utilized. By asking subjects, questions regarding outcome expectations once from the point of view of success and again from the point of view of failure, it will be possible to see whether they make a distinction between the two or not.

D. Cross-cultural Implications:

Although there is no comparable data available for making a cross-cultural comparison in the present context certain relevant comments can be made in a cross-cultural perspective. By implication, the studies dealing with cross-cultural differences in child-rearing (Minturn and Lambert, 1964), socialization antecedents of cognitive complexity (Cross, 1966) and personality correlates of cognitive complexity (Carment and Alcock, 1976) suggest that Indians would be relatively low on cognitive complexity. However, an observation of the distributions of cognitive complexity scores of both pre-adolescents and adults shows an inclination for high complexity rather than low complexity (see Figure 5).

Insert Figure 5 about here

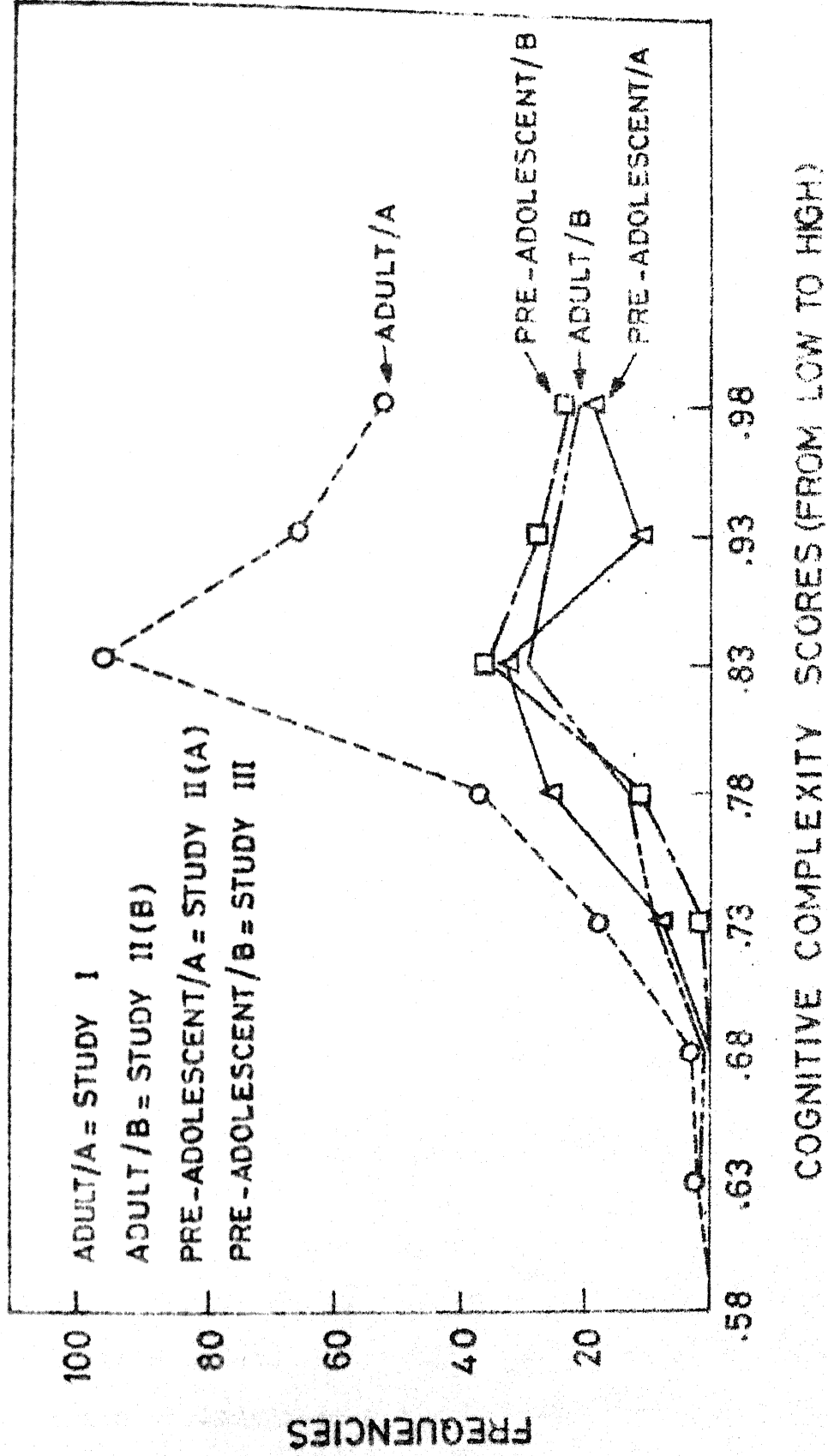


FIG.5 DISTRIBUTION OF COGNITIVE COMPLEXITY SCORES (ON SCOTT'S OBJECT SORTING TEST)

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Similarly, cross-cultural comparisons of locus of control suggest that Indians are low on internal locus. However, the present findings indicate, not only that the distribution of internality scores in the present set of data shows an inclination towards high internality rather than low internality (see Figure 6), but also that the means and standard deviations of internality scores (I.A.R.) are comparable to American norms for the same scale (Lefcourt, 1976). The means and standard deviation of the I.A.R. scores of the present sample and American norms are presented in Table 9.

Insert Figure 6 and Table 9 about here

Therefore, it is suggested that the observation mentioned above should be kept in mind while interpreting cross-cultural data in future research.

Suggestions for Future Research:

The present research offers valuable insight into the study of the determinants of causal attribution. On the basis of the specific findings and their implications, certain questions for future research which should be taken up immediately can be pointed out.

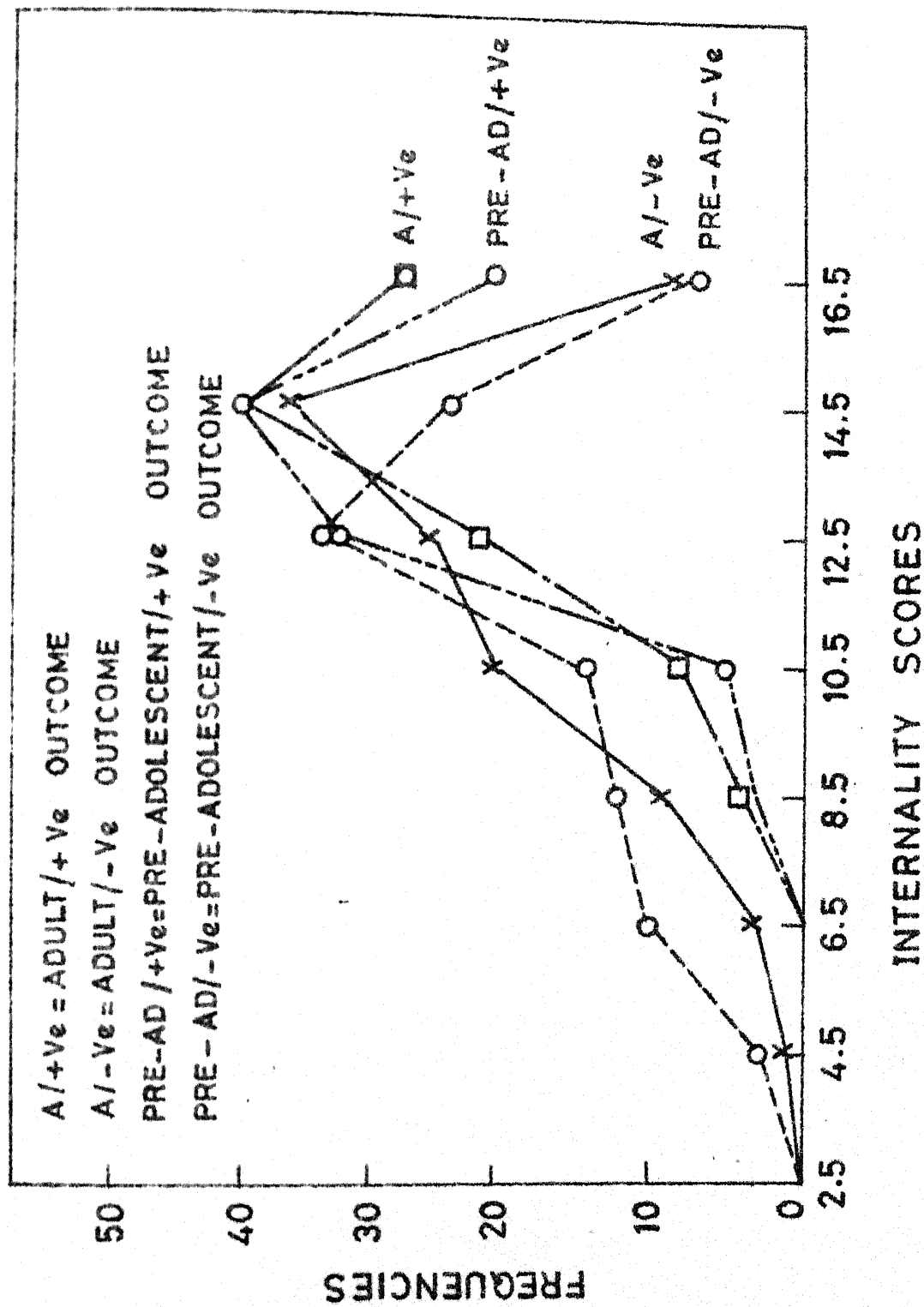


FIG.6 DISTRIBUTION OF INTERNALITY SCORES ON TWO SUBSCALES (I⁺ AND I⁻) OF INTELLECTUAL ACHIEVEMENT RESPONSIBILITY SCALE

TABLE 9 : Means and Standard deviations of I-total
Score on I.A.R. Scale.

	Subjects	N	Mean	SD
INDIAN SAMPLE	MALE ADULT	50	27.12	3.48
	FEMALE ADULT	50	26.16	3.73
	MALE PRE- ADOLESCENT	45	23.33	4.22
	FEMALE PRE- ADOLESCENT	45	24.15	5.34
	MALE GRADE - 12	52	24.38	3.71
AMERICAN SAMPLE*	FEMALE GRADE-12	57	27.33	2.98
	MALE GRADE - 8	68	25.38	3.51
	FEMALE GRADE - 8	93	26.64	3.86

* Source : Lefcourt (1976)

The first and most important step which should be taken in the study of cognitive-personal variables in attribution of causality is to study the role of informational complexity. Such an attempt will help delineating the role of cognitive personal variable in attribution.

It is clear that the present research mainly focused on the cognitive mediators of attribution. To consider the relative explanatory value of cognitive and motivational (for example, self-esteem) mediators would be another important point for future consideration.

In order to be able to generalize the present findings it would be imperative to examine the role of cognitive complexity in other attributional contexts. For example, situations involving positive and negative information other than success and failure (for instance, praise and criticism).

In the present research, the examination of parenting was limited only to parenting- as it is perceived by the children; by incorporating information from other sources, for example, reports from parents and observation in situations of actual interaction we may attain a more comprehensive picture of both cognitive complexity and attribution.

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Lastly, since the present research examined only one cognitive-personal variable namely, cognitive complexity it would be imperative to examine other cognitive-personal variables in order to be able to draw definite conclusions.

Concluding Comments:

The review of attribution determinants had clearly shown that studies dealing with personal, especially cognitive-personal determinants of attribution, are lacking the present research may be considered a sincere attempt to bridge the gap in the knowledge in this area.

With special reference to Indian context since there is virtually no study dealing with cognitive personal determinants of attribution in conjunction with situational variables, the present endeavour appears to be a right start.

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APPENDIX

APPENDIX I(A) : Role Repertory Test (Hindi Version)

APPENDIX I(B) : Role Repertory Test (English Version)

भूमिका विवरण परीक्षण सम्बंधी निर्देश

निर्देश : अभी जो परीक्षण आपको दिया जाने वाला है उसके तीन भाग हैं :

- 1- खानों वाला प्रपत्र (Conceptual Grid)
- 2- भूमिका नामों की सूची (List of role description)
- 3- निर्देश (Instructions)

इस परीक्षण का निर्माण इस उद्देश्य से किया गया है जिससे परीक्षक को आपको तथा आपसे सम्बन्धित कुछ उन व्यक्तियों को समझने का अवसर मिलेगा जिन्होंने आपके जीवन में महत्वपूर्ण भूमिका निभाई है। इस परीक्षण प्रक्रिया के विभिन्न चरणों का विवरण नीचे दिया जा रहा है कृपया ध्यान से पढ़ें।

- 1- सबसे पहले उस प्रपत्र से कार्य प्रारम्भ करें जिस पर विभिन्न भूमिकाओं का विवरण दिया हुआ है। सर्व प्रथम विवरण के अनुसार व्यक्तियों के नाम दिये गये रिक्त स्थान में लिखें। यदि आपको व्यक्ति का नाम न याद हो तो उसका अन्तिम नाम (उपनाम) अथवा उससे सम्बन्धित कुछ ऐसी बात लिखें जिसके आधार पर आप उस व्यक्ति को याद कर सकें।
- 2- तत्पश्चात् इस प्रपत्र को खाने बने हुए प्रपत्र पर इस प्रकार रखें जिससे संख्यांकित रिक्त स्थान, खाने बने हुए फार्म के संख्यांकित स्तम्भों के साथ-साथ आयें।
- 3- अब भूमिका नामों की सूची को इस प्रकार रखें कि यह खानों वाली पहली पंक्ति के ठीक ऊपर आ जाये। ध्यान दें। दाहिने तरफ दसवें, बारहवें, तथा बारहवें स्तम्भ (Col. 10, 11, 12) के खानों के रिक्त स्थानों में गोले बने हुए हैं, इसका तात्पर्य यह है कि पढ़ने प्रयत्न में आपको इन तीनों स्तम्भों पर ध्यान देना है और उन तीन व्यक्तियों को लेना है जिनके नाम इन तीनों संख्याओं के ऊपर आते हैं। इन दिये गये तीन व्यक्तियों के बारे में सोचिये कि किसी महत्वपूर्ण बात में इनमें से दो व्यक्ति एक से तथा उसी बात में तीसरे से भिन्न है? आप तब तक सोचते रहिये जब तक आपको यह याद नहीं आ जाये कि उनमें से दो व्यक्ति किसी महत्वपूर्ण मामले में एक दूसरे के समान और तीसरे से भिन्न हैं। जब आप निश्चित हो जायें तो दो समान व्यक्तियों के नामों के नीचे आने वालों में 'x' का चिन्ह बनायें तीसरे गोले में कोई भी चिन्ह न बनायें।

अब विशेषता (Construct) वाले स्तम्भ में रिक्त स्थान पर वह शब्द या छोटा वाक्य लिखें जो यह बताता हो कि किस प्रकार आपके द्वारा बताये गये दो व्यक्ति समान हैं तथा साथ विपरीत (Contrast) शीर्षक वाले स्तम्भ में, जो विशेषता आपने लिखी है आपके अनुसार उल्टा जो विपरीत हो वह लिखें ।

4- अब शीर्ष 12 व्यक्तियों, जिनके नाम शेष वाले स्तम्भों के ऊपर आते हैं । और जिनके नीचे बने खानों में कोई गोले नहीं बने हैं, के बारे में सोचिये अब ये बतायें कि जिन व्यक्तियों को आपने 'x' चिन्ह दिया है उनके साथ-साथ और कौन-कौन से व्यक्ति उस विशेषता को रखते हैं । अब उन व्यक्तियों के नामों के नीचे बने खानों में सही का चिन्ह (✓) लगायें (ध्यान रहे इस बार 'x' चिन्ह का उपयोग नहीं किया जायेगा) जिनमें आपके अनुसार वह विशेषता है ।

5- भूमिका नामों की सूची को नीचे की ओर सरका कर दूसरी पंक्ति के ऊपर कर लीजिये उन तीन व्यक्तियों के बारे में ध्यान दीजिये जिनके नामों के नीचे बने रिक्त स्थानों में गोले बने हैं । दो समान व्यक्तियों के नामों के नीचे बने खाने के रिक्त स्थान में बने गोले में 'x' का चिन्ह लगायें और तीसरे को छोड़ दें । और वह विशेषता लिखें जिसमें दो व्यक्ति आपस में समान हैं और तीसरे से भिन्न हैं । विशेषता वाले स्तम्भ में विशेषता तथा विपरीत वाले स्तम्भ में उस विशेषता का विपरीत लिखें ।

इस प्रक्रिया को तब तक दोहराते रहिये जब तक परीक्षा पूरी नहीं हो जाये अर्थात् आप अन्तिम पंक्ति में दिये व्यक्तियों के बारे में उनकी विशेषतायें और उसका विपरीतार्थ नहीं लिख लेते ।

आप खाने बने हुए प्रपत्र के शीर्ष पर दिये गये रिक्त स्थान में अपना नाम दिनांक इत्यादि भरकर वह प्रपत्र हमें लौटा दें । भूमिका नामों की सूची आप अपने पास रख सकते हैं ।

भूमिका विवरण परीक्षण

भूमिका विवरणों की सूची

- 1- आपकी माँ अथवा वह व्यक्ति जिसने आपके जीवन में माँ की भूमिका निभायी हो
- 2- आपकी पिता अथवा वह व्यक्ति जिसने आपके जीवन में पिता की भूमिका निभायी हो
- 3- आपके भाई जो अद्य में आपके सबसे निम्न हो, यदि आपके कोई भाई न हों तो वह व्यक्ति जो आपके भाई के समान हो
- 4- आपकी बहन जो अद्य में आपके सबसे निम्न हो यदि आपके कोई बहन न हो तो वह व्यक्ति जो आपकी बहन के समान हो
- 5- एक शिक्षक/शिक्षिका जिसे आप प्रसन्न करते हैं अथवा उस विषय (जिसे आप प्रसन्न करते हैं) का शिक्षक/शिक्षिका
- 6- एक शिक्षक/शिक्षिका जिसे आप नाप्रसन्न करते हैं अथवा उस विषय (जिसे आप नाप्रसन्न करते करते हैं) का शिक्षक/शिक्षिका
- 7- आपका घनिष्ठ Girl friend/ boy friend जो आपके वर्तमान Girl friend/ boy friend पति/पत्नी से पूर्व था
- 8- आपका वह अधिकारी जिसके साथ आपने सर्वाधिक दबाव के दौरान कार्य किया
- 9- आपकी पति/पत्नी अथवा निम्नतम वर्तमान Girl friend/boy friend
- 10- वह व्यक्ति जिसके साथ आप घनिष्ठ रूप से जुड़े हैं और जो अब आपको कुछ ऐसे कारणों से घृणा करता प्रतीत होता है जिनकी व्याख्या न की जा सके ।
- 11- वह व्यक्ति जिससे आप पिछले छः माह में मिले हैं और जिसे आप अच्छी तरह जानना चाहते हैं
- 12- वह व्यक्ति जिससे आप सर्वाधिक सहायता करना चाहें अथवा जिसके लिये सर्वाधिक दुःख महसूस करते हैं
- 13- वह सर्वाधिक बुद्धिमान व्यक्ति जिसे आप व्यक्तिगत रूप से जानते हैं
- 14- वह सबसे समझदार व्यक्ति जिसे आप व्यक्तिगत रूप से जानते हैं
- 15- वह सर्वाधिक सचिकर व्यक्ति जिसे आप व्यक्तिगत रूप से जानते हैं

Conceptual - Grid

CONSTRUCTS (विशेषता)		CONTACTS (विपरीत)	
sort No.			
1			
2			
3			
4			
5			
6			
7			
8			
9			
10			
11			
12			
13			
14			
15			

APPENDIX I(B)

ROLE CONSTRUCT REPERTORY TEST (REP TEST)

Instructions: This test comprises three parts:

1. Conceptual Grid
2. List of Role Description
3. Instructions

The test is designed to help the examiner to understand you and some of the people who have played a part in your life. Different steps, in this test, are given below.

1. Start with the list of role descriptions. Write the names of the people in the given blanks according to role descriptions. If you cannot remember a persons' name, write his last name or something about him which will clearly bring to your mind, the person's identity.
2. Lay the list of role descriptions sidewise across the top of the grid so that the numbered blanks correspond to the numbered columns in the grid.
3. Now move the list of role descriptions down on the grid until it is just above the first row of squares. Note that the three squares (10, 11 and 12) at the extreme right have circles in them. This means that you are first to consider the three people who's names appear in the list of role descriptions. Think about these three people. Are two of them alike in some important way that distinguishes

them from the third person. Keep thinking about them until you remember the important way in which two of them are alike and which sets them off from the third person.

When you have decided which two it is, and the important way in which they are alike, put an "X" in the two circles corresponding to the two who are alike. Do not put any mark in the third circle.

Now write in the blank under "construct", the word or short phrase that tells how these two are alike. Next, write in the blank under "contrast" what you consider to be the opposite of this characteristic.

4. Now consider each of the other 12 persons whose names appear at the heads of columns 1 to 12. In addition to the persons whom you have marked with an "X", which one's also have this important characteristic? Put a check mark (✓) - not an "X" - under the name of each other person who has this important characteristic.

5. Now slid the list of role description down to the second row and consider those three persons who have circles under their names. Put "X's" in the circles to show which two are alike. Write the "construct" and the "contrast" in the blanks at the right just as you did before. Complete the test in the way you have done the first two rows. Write your name and date on the date sheet and give it back to us. You may keep or destroy the other two sheets.

Conceptual - Grid

CONSTRUCTS (विशेषता)		CONTRASTS (विपरीत)	
sort No.			
1			
2			
3			
4			
5			
6			
7			
8			
9			
10			
11			
12			
13			
14			
15			

APPENDIX II (A) : Attribution Scale (Hindi Version)

APPENDIX II (B): Attribution Scale (English Version)

ATTRIBUTION SCALE

संख्या

नाम-

वर्ग -

दिनांक-

निर्देश - अगले कुछ पृष्ठों पर कुछ परिस्थितियों का वर्णन दिया हुआ है। प्रत्येक परिस्थिति के अन्त में उस भाग विशेष के परिणाम के साथ-साथ उसके सम्भावित कारण भी दिये गये हैं। सभी कारण किसी भी परिस्थिति में किसी भी परिणाम के लिये कम या अधिक सीमा तक उत्तरदायी हो सकते हैं। हम यह जानना चाहते हैं कि आप विभिन्न कारणों को किसी भी दिये गये परिणाम के लिये किस सीमा तक उत्तरदायी मानते हैं? इस प्रश्न का कोई सही या गलत उत्तर नहीं है हमारी सचि आपका मत जानने में हैं। अपना मत दाख करने के लिये आपको नीचे लिखे निर्देशों के अनुसार कार्य करना होगा :

प्रत्येक परिस्थिति वर्णन के नीचे उस परिस्थिति से सम्बन्धित परिणाम के लिये उत्तरदायी चार सम्भव कारण दिये हुये हैं प्रत्येक कारण के नीचे एक छः बिन्दुकीय स्केल बना हुआ है:

निम्नलिखित के समान:

न्यूनतम सीमा तक उत्तरदायी	कुछ सीमा तक उत्तरदायी	काफी सीमा तक उत्तरदायी	अच्छी सीमा तक उत्तरदायी	काफी अच्छी सीमा तक उत्तरदायी	उच्चतम सीमा तक उत्तरदायी
1	2	3	4	5	6

उपरोक्त स्केल में एक (1) की संख्या इस बात को प्रदर्शित करती है कि वह कारण उस परिणाम विशेष के लिये बहुत कम सीमा तक उत्तरदायी है। इसी प्रकार दो (2) की संख्या इस बात को प्रदर्शित करती है कि वह कारण कुछ सीमा तक उत्तरदायी है। इसी प्रकार यदि आप किसी कारण को अच्छी सीमा तक उत्तरदायी मानते हैं तो 4 की संख्या उसे प्रदर्शित करेगी तथा 6 की संख्या अधिकतम सीमा तक उत्तरदायित्व को प्रदर्शित करती है। वास्तविक परीक्षणों में दिये गये स्केलों में आपको ऊपर दिये के

समान विभिन्न सीमा सूचक शब्द नहीं दिये जायेंगे। आपको केवल अंकों के आधार पर कार्य करना है। आप निर्देश में दिये गये स्केल से सहायता ले सकते हैं/ सकती हैं। प्रत्येक परिस्थिति में आप दिये गये कारणों को किस सीमा तक उत्तरदायी समझते/समझती हैं यह आपको अपनी राय के अनुसार उपयुक्त संख्या पर गोलाकार (0) चिन्ह बनाकर सूचित करना है।

ध्यान दें : दिये गये कारणों के अन्त में अन्य कारण का रिक्त स्थान है। इस स्थान पर आप अपने मत के अनुसार उन कारणों को लिख सकते हैं जो ऊपर दिये गये कारणों के अन्तर्गत न आते हों।

स्थिति - 1

आपके अलेख का एक छात्र नेता आपसे तथा आपके साथियों से किसी दया पूर्ण उद्देश्य के लिये अनुदान एकत्र करने का अनुरोध करता है, हालाँ कि इस कार्य के लिये समय बहुत कम था हिन्दु किसी तरह से आप इस अनुदान के लिये सबसे अधिक धन एकत्र कर सके/ सकी ।

आपके अनुसार, नीचे दिये गये कारण इस परिणाम के लिये किस सीमा तक उत्तरदायी हैं :

1- आपका जनसम्पर्क बहुत अच्छा है :

1	1	1	1	1	1
1	2	3	4	5	6

2- सौभाग्य से जिन व्यक्तियों से आपने सम्पर्क किया उनकी जेबों में पर्याप्त धन था ।

1	1	1	1	1	1
1	2	3	4	5	6

3- आपकी इसलिये अनुदान मिला गया क्योंकि आपने उस लोकप्रिय नेता का उल्लेख किया था :

1	1	1	1	1	1
1	2	3	4	5	6

4- आप वास्तविक रूप से उस दया पूर्ण उद्देश्य में सचि ले रहे थे/ रहीं थीं और आपने अनुदान एकत्र करने के लिये लगन से कार्य किया :

1	1	1	1	1	1
1	2	3	4	5	6

5- अन्य कारण :

स्थिति-2

निम्न विषयों का अध्ययन अभी आप कर रहे हैं/रही हैं उनमें से एक में आपका सहमति बहुत तेज है। इसलिये उस विषय की परीक्षा के लिये तैयारी करने के लिये आप उस मित्र की सहायता लेते हैं। उस विषय के कई भाग जो आप दोनों ने मिलकर तैयार किया था प्रश्नपत्र में आते हैं। जब परिणामों की घोषणा होती है तो आपको यह पता लगता है कि उस विषय में आपको आपके मित्र से ज्यादा अंक प्राप्त हुए हैं। आप था सोचते/सोचती हैं। नीचे दिये गये कारण इस परिणाम के लिये कड़ा तर्क उत्तरदायी हैं :

1- परीक्षक ने आपकी उत्तर पुस्तिका पक्षपात पूर्ण ढंग से देखी :

1	1	1	1	1	1
1	2	3	4	5	6

2- आपकी स्मृति आपके मित्र की अपेक्षा ज्यादा अच्छी है :

1	1	1	1	1	1
1	2	3	4	5	6

3- आपने अपने मित्र की अपेक्षा ज्यादा परिश्रम किया था :

1	1	1	1	1	1
1	2	3	4	5	6

4- आप अपने मित्र की अपेक्षा ज्यादा भाग्यशाली हैं :

1	1	1	1	1	1
1	2	3	4	5	6

5- अन्य कारण :

इस समय आपके कालेज का वार्षिकोत्सव चल रहा है और बहुत सारी प्रतियोगिताओं का आयोजन किया जा रहा है। आपके मित्र आप पर इस बात के लिये जोर देते हैं कि आप भी साहित्यिक प्रतियोगिता में भाग लें तथा अपनी स्वरचित कविता प्रस्तुत करें। पहली बार आपने इस तरह की प्रतियोगिता में भाग लेने का निश्चय लिया। प्रतियोगिता सम्पन्न होने के बाद आपने देखा कि किसी अन्य व्यक्ति द्वारा प्रस्तुत की गयी एक कविता की बड़ी सराहना हो रही थी परन्तु जब परिणाम घोषित हुये ~~अप्र~~ त्यागित रूप से आपको प्रथम पुरस्कार मिलता है। आपके अनुसार नीचे दिये गये कारण इस बात के लिये कहाँ तक उत्तरदायी हैं :

1- कविता में ~~आपकी~~ रचि ने वास्तव में आपकी कविता को सबसे अच्छा बना दिया था :

1	2	3	4	5	6
---	---	---	---	---	---

2- निर्णायकों ने आपके पक्ष में एक पक्षपात पूर्ण निर्णय लिया था :

1	2	3	4	5	6
---	---	---	---	---	---

3- वास्तव में आप बहुत अच्छे कवि हैं :

1	2	3	4	5	6
---	---	---	---	---	---

4- इस प्रकार की प्रतियोगिता में कोई भी व्यक्ति संयोग से पुरस्कार प्राप्त कर सकता है :

1	2	3	4	5	6
---	---	---	---	---	---

5- अन्य कारण :

स्थिति - 4

स्वातन्त्र विद्यार्थी के रूप में आपने अभी-अभी बी० ए०/बी० एस० सी०/बी० आर० की परीक्षा दी है। किसी भी अन्य व्यक्ति के समान अपने परिणाम के बारे में आपने भी कुछ पूर्वानुमान लगाये हैं। अतः जब परीक्षाफल आता है तो आप देखते/देखती है कि आपको प्रथम श्रेणी प्राप्त हुई कि आपको केवल द्वितीय श्रेणी की आशा थी। किस सीमा तक आप नीचे दिये गये कारणों को उत्तरदायी मानेंगे/मानेंगी :

1- विश्वविद्यालयी परीक्षार्थ सदैव भाग्य पर निर्भर करती हैं :

1	2	3	4	5	6
---	---	---	---	---	---

2- आप एक बुद्धिमान विद्यार्थी हैं :

1	2	3	4	5	6
---	---	---	---	---	---

3- परीक्षा की तैयारी में आपने काफी मेहनत की थी :

1	2	3	4	5	6
---	---	---	---	---	---

4- परीक्षा बहुत ही आसान थी :

1	2	3	4	5	6
---	---	---	---	---	---

5- अन्य कारण :

वैसे सामान्यतया आप अपने को कार्ड (Cards) के खेल में अच्छा नहीं मानते परन्तु अभी-अभी पिछली छद्मियों में आपने देखा कि अपने मित्रों के साथ खेलते समय आप लगातार हर बारी में जीत रहे थे। आप नीचे दिये गये कारणों को किस सीमा तक इस बात से लिये उत्तरदायी मानते हैं :

1- आप इतने भाग्यशाली हैं कि आपको हमेशा अच्छे पत्ते मिलते थे :

1	2	3	4	5	6
---	---	---	---	---	---

2- आपको अपने अन्तर्ज्ञान से यह पहले ही ज्ञात हो जाता है कि आपके मित्र क्या करने वाले हैं :

1	2	3	4	5	6
---	---	---	---	---	---

3- अभ्यास के कारण पत्ते के खेल में आप काफी दृढ़ हो गये/गयी हैं :

1	2	3	4	5	6
---	---	---	---	---	---

4- आपके मित्र इस खेल में अभी नये हैं :

1	2	3	4	5	6
---	---	---	---	---	---

5- अन्य कारण :

स्थिति - 6

साक्षात् शिक्षा समाप्त करने के पश्चात् आप कोई सम्मानजनक पद प्राप्त करने की योजना बना रहे /रही हैं । इसलिये आप अनेक राष्ट्रीय तथा क्षेत्रीय प्रतियोगी परीक्षाओं में बैठे/बैठी हैं । अभी-अभी किसी संगठन (Organization) से एक इस प्रकार का पत्र आपको प्राप्त होता है कि एक उच्च कार्यकारी पद के लिये दी गयी लिखित परीक्षा में आप पास हो गये/गयी हैं और अब आपका साक्षात्कार किया जायेगा । साक्षात्कार होने के बाद आपको उस पद के लिये चुन लिया जाता है । नीचे दिये गये कारणों को आप जिस सीमा तक इस स्थिति के लिये उत्तरदायी मानते हैं :

1- आप एक मेधावी छात्र/ छात्रा हैं :

1	1	1	1	1	1
1	2	3	4	5	6

2- प्रतियोगिता कठिन नहीं थी क्योंकि अधिक व्यक्ति नहीं थे :

1	1	1	1	1	1
1	2	3	4	5	6

3- आपने इस प्रतियोगिता के लिये तैयारी में काफी समय और परिश्रम व्यय किया था :

1	1	1	1	1	1
1	2	3	4	5	6

4- साक्षात्कार बोर्ड आपकी योग्यताओं को देखे बिना ही आपसे प्रभावित हो गया था :

1	1	1	1	1	1
1	2	3	4	5	6

5- अन्य कारण :

अपने शत्रु की बैन्टीन में बैठे हुये आप अपने मित्रों के साथ देश की वर्तमान राजनीतिक परिस्थितियों पर चर्चा कर रहे/रही थीं। अचानक बड़े ही दुःखपूर्ण ढंग से बातचीत व्यक्तिगत टीका टिप्पणी में बदल जाती है। आप परिस्थिति की गम्भीरता को महसूस करते/करती हैं और किसी तरह से बातचीत का विषय बदल देते/देती हैं। जल्दी ही आपके मित्र शान्त हो जाते हैं। सभी मित्र आपसे व्यवहार की सराहना करते हैं और बैन्टीन छोड़ते समय आप सब पहले के ही समान अच्छे मित्र रहते हैं। नीचे दिये गये कारणों को आप कहाँ तक इस परिणाम के लिये उत्तरदायी मानते हैं :

- 1- वह एक बहुत ही छोटी और सरल सी समस्या थी जिसका समाधान जल्दी आसानी से किया जा सकता था :

1	2	3	4	5	6
---	---	---	---	---	---

- 2- आप भाग्यशाली हैं कि आपके मित्र सम्झदार हैं और आपके साथ सहयोग करने वाले हैं :

1	2	3	4	5	6
---	---	---	---	---	---

- 3- इस प्रकार की सामाजिक परिस्थितियों में सहमता पूर्वक व्यवहार करने की आपके अन्दर एक विशेष योग्यता है :

1	2	3	4	5	6
---	---	---	---	---	---

- 4- आप वास्तव में मित्रता और शान्ति को बनाये रखने के लिये चिन्तित थे/थी :

1	2	3	4	5	6
---	---	---	---	---	---

- 5- अन्य कारण :

स्थिति - 8

आप लगभग दो महीने से किसी संगठन (Organization) में काम कर रहे/रहीं हैं। यह आपका पहला कार्य है। एक दिन आपके अधिकारी ने आपको बुला कर ये पूछा कि आपकी तरक्की हो रही है। इस तरक्की से आपकी आय में वृद्धि के साथ आपके पद में भी उन्नति होगी। नीचे दिये गये कारणों को आप किस सीमा तक इस उन्नति के लिये उत्तरदायी मानते हैं :

1- आपकी क्षमताओं और आपके औचित्य ने आपको इस उन्नति के योग्य बनाया :

1	2	3	4	5	6
---	---	---	---	---	---

2- आपके उच्च अधिकारी निम्न भूत में काफी अके मूड में रहे :

1	2	3	4	5	6
---	---	---	---	---	---

3- उच्च स्तर के पदों के लिये अनुमोदन संयोग से इसी समय प्राप्त हुआ :

1	2	3	4	5	6
---	---	---	---	---	---

4- इस कार्य क्षेत्र में आप एक अनुभवी व्यक्ति हैं :

1	2	3	4	5	6
---	---	---	---	---	---

5- अन्य कारण :

APPENDIX II(B)ATTRIBUTION SCALE

Name :

Class:

Date :

Instructions: In the following pages certain situations have been described. In each situation, along with the outcome some possible reasons are also given. Each of the reasons given, could be responsible to some extent for the outcome of the situation. We want to know to what extent you consider different reasons responsible for any depicted outcome. There is no right or wrong answer, to this question, we are only interested in knowing your opinion. To express your opinion, please follow the instructions given below:

For each situation, four possible reasons are given. Each reason is accompanied by a 6 point rating scale, as follows:

Least Responsible	Slightly Responsible	Somewhat Responsible	Quite Responsible	Responsible to a considerable extent	Most Responsible
1	2	3	4	5	6

In the scale given above, number '1' shows that, that particular reason is least responsible for the given outcome. Similarly '2' if you consider any reason quite responsible, a number of '4' will denote it, and a number of '6' will show greatest responsibility, to a particular reason. In the actual questionnaire the labels for each point on the scale will be omitted. You will have to respond only on the basis of the numbers given. You can make use of the scale given in the instructions. For each situation, in order to show the extent to which you consider only cause responsible, you have to encircle (O) the appropriate number according to your opinion.

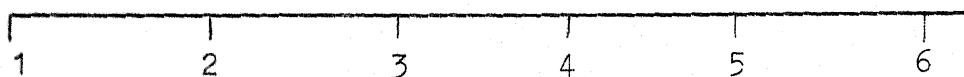
Note: At end of each situation, there is an 'other reasons' column, in which you may fill out those reasons that may not have been given in the test.

Situation 1

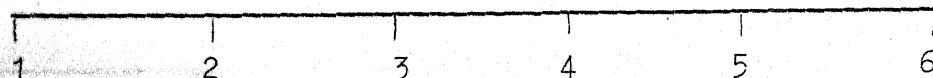
A student leader in your college asks you and your friends to collect donations for some charitable cause. Even though, time was short, somehow you were able to collect the largest sum of money for donation.

According to you, to what extent were each of the reasons given below responsible for this result:

1. Your public relations are very good.



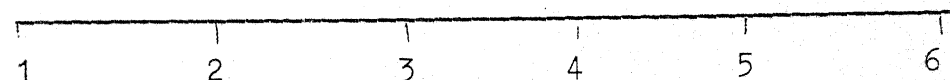
2. Luckily, the people you approached for donations had sufficient money in their pockets.



3. You got the donation because you mentioned the name of the popular student leader.



4. You were actually interested in that charitable cause and therefore you tried to collect the donation with great sincerity.



5. Other reasons:

Situation 2

Of the subjects you are studying at college, one of your friends is very good at one of them. Therefore, in preparing for that subject for the exams, you take the assistance of your friend. One part (in this subject) that you had both prepared together comes in the question paper. When the results are announced, you find that in that particular subject, you have got more marks than your friend. What do you think? To what extent are the reasons given below responsible for this result.

1. The examiner, examined your answer book in a biased manner.



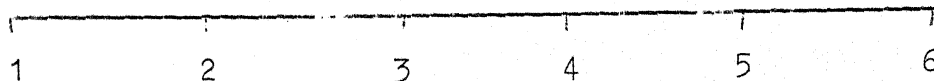
2. Your memory is better than your friend's.



3. You put in more work than your friend did.



4. You are luckier than your friend.



5. Other reasons:

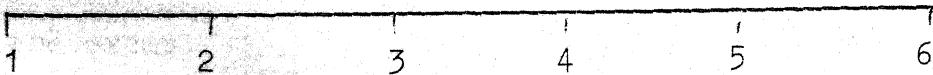
Situation 3

At present, your college is having its annual function and a number of competitions are being organized. your friend persuades you to participate in the literary competition and present a poem written by you. You decide to participate in such a competition for the first time. Once the competition is over you find that a poem presented by another person is being praised a lot, but when the results are announced, you are unexpectedly given the first prize. According to you, to what extent are the following reasons responsible for this result:

1. Your interest in poetry had made your poem the best.



2. The judges were biased in your favour.



3. You are actually a very good poet.



4. In such competitions, any person can win by chance.



5. Other reasons: -

Situation 4

As a graduate student you just appeared for your B.A./B.Sc./B.Com examination. Like any other person, you also have some expectations regarding your results. Finally when the results are announced, you get a first division, though you were expecting only a second division. To what extent do you think the following reasons are responsible for your result:

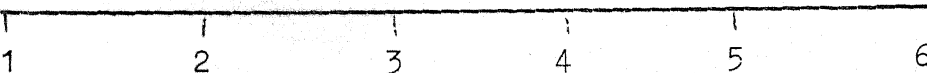
1. University exams are always based on chance.



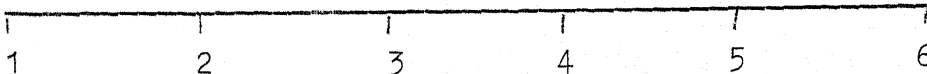
2. You are an intelligent student.



3. You had worked quite hard in your preparation for the exams.



4. The exam was very easy.



5. Other reasons:-

Situation 5

Generally you don't think you are good at playing cards, but recently in the last holidays you found that, while playing with your friends, you won almost every game. To what extent are the reasons given below responsible for this:

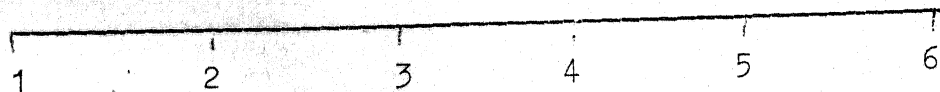
1. You are so lucky, that you always got good cards.



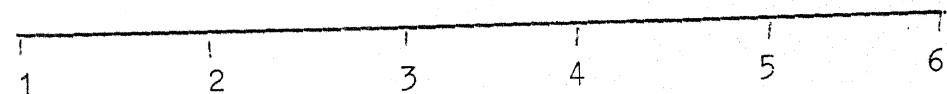
2. You were able to intuitively tell what your friends were going to do next.



3. Through practice you have become quite skilled at playing cards.



4. Your friends are new at this game.



5. Other reasons:-

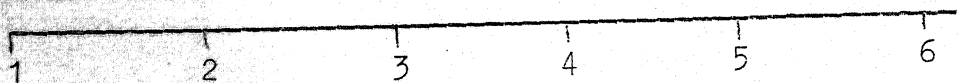
Situation 6

After finishing your graduation you are planning to take up a respectable job. Therefore, you are appearing in many national and regional competitive examinations. Recently, you have received a letter from an organization, telling you that you have passed the written examination for a high executive post, and now you will be called for an interview. After the interview you are selected for that post. To what extent are the following reasons responsible for this outcome.

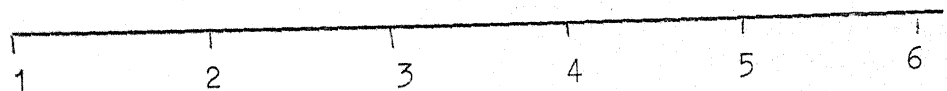
1. You are a bright student.



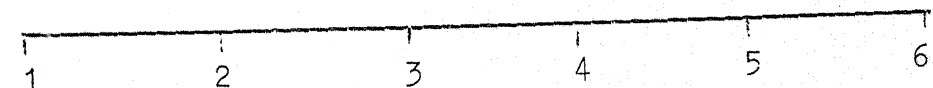
2. The competition was not tough because there were not too many competitors.



3. You had put in a lot of time and effort in preparing for this competitive exam.



4. The interview board was impressed by you without even looking at your qualifications.

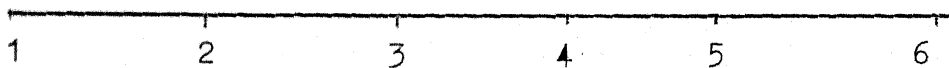


5. Other reasons:-

Situation 7

You were discussing the present political conditions of the country with your friends, at the college canteen. Suddenly, the discussion takes the form of personal comments. You realize the gravity of the situation, and somehow change the topic. Soon your friends cool down. All yours friends praise your behaviour, and on leaving the canteen you were all as good friends as ever. To what extent are the following reasons, responsible for this outcome:

1. This was a very small and simple matter which could be sorted out quite easily.



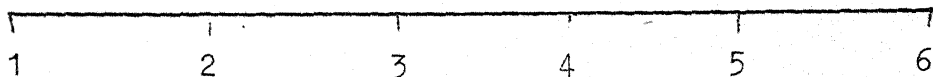
2. You are lucky that your friends are understanding and cooperative.



3. You have a special quality of being able to take care of such social situations effectively.



4. You were really concerned about maintaining the peace and friendship of the group.



5. Other reasons:-

Situation 8

You are working in some organization for the last two months. This is your first job. One day your boss called you and told you that you would be given a promotion. This promotion will give you a raise in salary as well as a higher position. To what extent are the following reasons responsible for this outcome:

1. Your abilities and suitability has made you worthy of this promotion.

1 2 3 4 5 6

2. Your boss has been in a good mood, of late.

1 2 3 4 5 6

3. By chance, the recommendations for the higher post were issued just then.

1 2 3 4 5 6

4. You are an experienced person in this area.

1 2 3 4 5 6

5. Other reasons:-

APPENDIX III(A) : The I.A.R. Scale (Hindi Version)

APPENDIX III(B) : The I.A.R. Scale (English Version)

नाम : (Name)

कक्षा : (Class)

निर्देश : नीचे कुछ कथन दिये हुये हैं जिनके साथ दो-2 विकल्प वाक्य भी दिये हुये हैं प्रत्येक कथन के सम्बन्ध में आपके बारे में जो विकल्प अधिक सीमान्त ^{तक} सही हो उस पर सही (✓) का निशान बना दें । ध्यान रखें कि केवल एक ही वाक्य पर सही का निशान लगाना है यदि आप कुछ विशेष लिखना चाहते हैं तो उसे वाक्य के सामने के रिक्त स्थान में लिख सकते हैं ।

(1) यदि एक अध्यापक/प्राध्यापक आपको एक कक्षा से दूसरी कक्षा में पास कर देते हैं तो क्या ऐसा सम्भवतया इसलिये हुआ होगा :

- (अ) क्योंकि वह आपको पसन्द करते हैं अथवा
- (ब) आपने जो कार्य किया उसकी वजह से

(2) जब आप स्कूल/विद्यालय की किसी परीक्षा में अच्छा करते हैं तो क्या ऐसा इसलिये होता है :

- (अ) क्योंकि आपने उसके लिये पढ़ाई की थी, अथवा
- (ब) क्योंकि परीक्षा विशेष रूप से सरल थी

) जब आपको स्कूल/विद्यालय में कुछ सम्झने में परेशानी होती है तो क्या अधिकतर इसलिये होता है :

- (अ) क्योंकि अध्यापक/प्राध्यापक उस बात को ठीक प्रकार से नहीं बताते हैं, अथवा
- (ब) क्योंकि आप ध्यान से नहीं सुनते हैं :

- (4) जब आप कोई कहानी पढ़ते हैं और उसका काफी हिस्सा याद नहीं कर पाते तो क्या ऐसा ज्यादातर इसलिए होता है :
- (अ) क्योंकि कहानी अच्छी तरह से लिखी नहीं गयी थी, अथवा
- (ब) क्योंकि आपकी कहानी में रुचि नहीं थी,
- (5) मान लीजिये कि आपके माता-पिता कहते हैं कि आप स्कूल में अच्छा कर रहे हैं तो क्या ऐसा सम्भवतया इसलिए होता है :
- (अ) क्योंकि आपका स्कूल का काम अच्छा था, अथवा
- (ब) क्योंकि वे अच्छे मूढ़ में थे :
- (6) मान लीजिये कि स्कूल/ विद्यालय में किसी विषय में आपने हमेशा की तुलना में अच्छा किया, तो क्या ऐसा सम्भवतया इसलिए हुआ होगा :
- (अ) क्योंकि आपने कठिन प्रयत्न किया था, अथवा
- (ब) क्योंकि किसी ने आपकी सहायता की थी,
- (7) जब आप लड़को / चेकर / ताश खेलते समय हार जाते हैं तो क्या ऐसा अधिकतर इसलिए होता है :
- (अ) क्योंकि आपका दूसरा साथी उस खेल में बहुत अच्छा है, या
- (ब) क्योंकि आप अच्छा नहीं खेल पाते हैं
- (8) मान लीजिये यदि कोई व्यक्ति यह सोचता है कि आप बहुत बुद्धिमान और चतुर नहीं हैं तो :
- (अ) क्योंकि कोशिश करके उसके विचार को बदल सकते हैं, अथवा
- (ब) आप चाहे जो करें क्या कुछ लोग ऐसे हैं जो आपको बुद्धिमान नहीं समझेंगे :

- (9) मान लीजिये कि आप कोई पहेली (Puzzle) जल्दी से सुलझा लेते हैं तो क्या ऐसा इसलिये है :
- (अ) क्योंकि पहेली (Puzzle) बहुत कठिन नहीं थी / या
- (ब) क्योंकि आपने उसे सावधानी पूर्वक सुलझाया
- (10) यदि कोई लड़का या लड़की आपसे यह कहता / कहती है कि आप मूर्ख हैं तो क्या ऐसा सम्भवतया इसलिये कहता/ कहती है :
- (अ) क्योंकि वह आपसे नाराज़ है, अथवा
- (ब) क्योंकि आपने जो कुछ किया वह बुद्धिमानी पूर्ण नहीं था
- (11) मान लीजिये कि आप एक अध्यापक/प्राध्यापक, वैज्ञानिक अथवा डाक्टर बनने के लिये पढ़ते हैं और असफल होते हैं तो आपके विचार से क्या ऐसा इसलिये होगा :
- (अ) क्योंकि आपने पर्याप्त परिश्रम नहीं किया, अथवा
- (ब) क्योंकि आपको कुछ सहायता ^{जरूरत} थी जो दूसरों ने आपको नहीं दी :
- (12) जब आप स्कूल में कोई चीज़ जल्दी सीख जाते हैं तो ऐसा अधिकतर इसलिये होता है :
- (अ) क्योंकि आपने अच्छी तरह से ध्यान दिया था अथवा
- (ब) क्योंकि अध्यापक/प्राध्यापक ने अच्छी तरह से समझाया था :
- (13) यदि कोई अध्यापक/प्राध्यापक कहते हैं कि आपका कार्य अच्छा है तो क्या ऐसा इसलिये है :
- (अ) क्योंकि अध्यापक/ प्राध्यापक विद्यार्थियों को प्रोत्साहित करने के लिये अधिकतर ऐसा कहते हैं, अथवा

(6) क्यों कि आपने अच्छा कार्य किया था ।

(14) यदि आपको गणित या अन्य किसी विषय की समस्या हो हल करने में
ठिनाई होती है तो क्या ऐसा इसलिये होता है :

(अ) क्यों कि आपको हल करने के पहले आपने उतनी अच्छी तरह नहीं
पढ़ा या जितनी आवश्यकता थी, अथवा

(ब) क्यों कि अध्यापक ने ऐसी समस्याएँ दी थी जो बहुत कठिन थी,

(15) जब आप कक्षा में बताई गई कोई बात भूल जाते हैं तो क्या ऐसा
इसलिये होता है :

(अ) क्यों कि अध्यापक/प्राध्यापक ने उसे ठीक प्रकार से समझाया नहीं
था, अथवा

(ब) क्यों कि आपने उसे याद रखने के लिये अधिक प्रयत्न नहीं किया था ।

(16) मान लीजिये कि आपके अध्यापक एक प्रश्न पूछते हैं जिसके उत्तर के बारे
में आप बहुत निश्चित नहीं हैं परन्तु जो उत्तर आप देते हैं वह सही निकल
आता है तो क्या ऐसा सम्भवतया इसलिये होता है :

(अ) क्यों कि उन्होंने उत्तर के बारे में उतनी परवा नहीं की जितनी हमेशा
करते थे, अथवा

(ब) क्यों कि आपने अपनी सपहा से सबसे अच्छा उत्तर दिया था,

(17) जब आप कोई कहानी/ लेख पढ़ते हैं और उसका अधिकतर भाग वृष्टे याद
रहता है तो क्या ऐसा अक्सर इसलिये होता है :

(अ) क्यों कि कहानी में आपकी रुचि थी, अथवा

(ब) क्यों कि कहानी अच्छी तरह से लिखी गयी थी ,

(18) यदि आपने माता-पिता उन्हें कि आप मूर्खतापूर्ण व्यवहार कर रहे हैं और अच्छी तरह से सोच नहीं रहे हैं तो या ऐसा इसलिये हुआ होगा ।

(अ) क्यों कि आपने ऐसा कुछ किया जो मूर्खतापूर्ण था, अथवा

(ब) क्यों कि वे झूठी हैं :

(19) जब स्कूल/ विद्यालय की किसी परीक्षा में आप अच्छा नहीं करते तो या ऐसा इसलिये होता है :

(अ) क्यों कि परीक्षा विशेष रूप से कठिन होती है । अथवा

(ब) क्यों कि आपने उसके लिये पढ़ाई नहीं की होती है

(20) जब लड़को/बेटी/ ताश के खेल में आप जीत जाते हैं तो या ऐसा इसलिये होता है :

(अ) क्यों कि आप वास्तव में अच्छा खेलते हैं, अथवा

(ब) क्यों कि दूसरा व्यक्ति अच्छा नहीं खेलता है,

(21) यदि लोग ये सोचते हैं कि आप बुद्धिमान और चतुर हैं तो या ऐसा इसलिये है :

(अ) क्यों कि भाग्यवश वे आपको पसन्द करते हैं, या

(ब) क्यों कि आप अधिकतर उसी प्रकार से व्यवहार करते हैं :

(22) यदि कोई अध्यापक/ प्राध्यापक आपको अगली कक्षा के लिये पास नहीं करते हैं तो या ऐसा सम्भवतया इसलिये हुआ होगा :

(अ) क्यों कि उन्होंने आपके बारे में ऐसा निश्चय पहले ही कर लिया था, अथवा

(ब) क्यों कि आपका स्कूल का कार्य उतना अच्छा नहीं था,

(23) मान लीजिये कि स्कूल/विद्यालय के किसी विषय में हमेशा की तुलना में आप उतना अच्छा नहीं करते हैं तो क्या ऐसा सम्भवतया इसलिये हुआ होगा :

- (अ) क्यों कि आप सदैव की तुलना में कम सावधान रहे होंगे, अथवा
- (ब) क्यों कि किसी ने आपको परेशान कर दिया और आपको कार्य नहीं करने दिया ,

(24) यदि कोई लड़का या लड़की आपसे कहता / कहती है कि आप होशियार हैं तो ऐसा अक्सर इसलिये होता है :

- (अ) क्यों कि आपने कोई अच्छा विचार दिया था, अथवा
- (ब) क्यों कि ये आपको पसन्द करते हैं ।

(25) मान लीजिये कि आप एक प्रसिद्धा अध्यापक, वैज्ञानिक या डाक्टर बन जाते हैं तो क्या ऐसा इसलिये होगा :

- (अ) क्यों कि जब भी जरूरत पड़ी दूसरे लोगों ने आपकी सहायता की, अथवा
- (ब) क्यों कि आपने कठिन परिश्रम लिया था ।

(26) मान लीजिये कि आपके माता पिता आपसे कहते हैं कि आप स्कूल/विद्यालय में अच्छा नहीं कर रहे हैं तो क्या ऐसा सम्भवतया इसलिये हुआ होगा :

- (अ) क्यों कि आपका काम बहुत अच्छा नहीं है, अथवा
- (ब) क्यों कि वे झूठ में हैं,

(27) मान लीजिये कि आप अपने किसी मित्र को ये बता रहे हैं कि किसी खेल को कैसे खेला जाये और उसे उसको खेलने में कठिनाई हो रही है, तो क्या ऐसा इसलिये हुआ होगा :

- (अ) क्यों कि वह यह समझने में असमर्थ था कि कैसे खेला जाये, अथवा
- (ब) क्यों कि आप उसे अच्छी प्रकार से समझा नहीं सके ।

(28) जब आपको गणित या अन्य किसी विषय की समस्याओं को हल करने में असानी होती है तो क्या ऐसा अधिकतर होता है :

- (अ) शौं कि अध्यापक ने आपको ^{इसलिये} ज़ादा ही सरल समस्याएँ दी थीं, अथवा
(ब) शौं कि समस्याओं को हल करने के पहले आपने पुस्तक को अच्छी तरह से पढ़ा होता है ।

(29) जब उम्मा में बतलाई गई कोई बात आपको याद रहती है तो क्या ऐसा अक्सर इसलिये होता है :

- (अ) शौं कि आपने उस याद करने के लिये कठिन प्रयत्न किया था, अथवा
(ब) शौं कि अध्यापक/प्राध्यापक ने उसे अच्छी तरह से समझाया था ।

(30) यदि आप एक पहेली (Puzzle) हल नहीं कर पाते हैं तो क्या ऐसा सम्भवतया इसलिये होता है :

- (अ) शौं कि आप पहेलियाँ (Puzzle) हल करने में कुछ विशेष अच्छे नहीं हैं, अथवा

- (ब) शौं कि पहेली सम्बन्धी निर्देश साफ-2 नहीं लिखे हुये थे ।

(31) यदि आपके माता-पिता कहते हैं कि आप बुद्धिमान या चतुर हैं तो क्या ऐसा सम्भवतया इसलिये हुआ होगा :

- (अ) शौं कि वे खुश होंगे, अथवा

- (ब) शौं कि आपने कुछ अच्छा किया था ।

(32) मान लीजिये आप अपने मित्र को कोई खेल जैसे खेलें से समझा रहे हैं और वह शीघ्र सीख जाता है तो क्या ऐसा अक्सर इसलिये होता है :

- (अ) शौं कि आपने उसे अच्छी तरह समझाया था, अथवा

- (ब) शौं कि वह समझने में समर्थ था ।

(33) मान लीजिये कि आपके अध्यापक एक प्रश्न पूछते हैं जिसके उत्तर के प्रति आप बहुत - निश्चित नहीं हैं और जो उत्तर आप देते हैं वह गलत निकल जाता है तो क्या ऐसा इसलिये होता है ।

(अ) क्यों कि अध्यापक/प्राध्यापक उत्तर के बारे में हमेशा से ज्यादा परवा
कर रहे थे, अथवा

(ब) क्यों कि आपने बहुत जल्दी बाजी में उत्तर दे दिया था ।

(34) यदि अध्यापक/प्राध्यापक कहते हैं कि इससे अच्छा करने का प्रयत्न करो ' ' तो क्या ऐसा इसलिये होगा :

(अ) वो इसलिये ऐसा कहते हैं जिससे छात्र अधिक परिश्रम करें, अथवा

(ब) क्यों कि आपका कार्य हमेशा की तुलना में अच्छा नहीं था ।

The I.A.R. Scale

Name _____ Class _____

1. If a teacher passes you to the next grade, would it probably be
_____ (a) Because she liked you, or
_____ (b) Because of the work you did?
2. When you do well on a test at school, is it more likely to be
_____ (a) because you studied for it or
_____ (b) because the test was especially easy?
3. When you have trouble understanding something at school, is it usually
_____ (a) because the teacher didn't explain it clearly, or
_____ (b) because you didn't listen carefully?
4. When you read a story and can't remember much of it, is it usually
_____ (a) because the story wasn't well written or
_____ (b) because you were not interested in the story.
5. Suppose your parents say you are doing well in school. Is this likely to happen
_____ (a) because your school work was good or
_____ (b) because they are in a good mood.
6. Suppose you did better than usual in a subject at school. Would it probably happen
_____ (a) because you tried harder, or
_____ (b) because someone helped you?

7. When you loose at a game of cards or checkers, does it usually happen
- _____ (a) because the other player is good at the game or
- _____ (b) because you don't play well?
8. Suppose a person does not think you are very bright or clever
- _____ (a) can you make him change his mind if you try to, or
- _____ (b) are there some people who will think you're not bright no matter what you do?
9. If you solve a puzzle quickly, is it
- _____ (a) because it wasn't a very hard puzzle, or
- _____ (b) because you work on it carefully?
10. If a boy or girl tells you that you are dumb, is it more likely that they say that
- _____ (a) because they are mad at you or
- _____ (b) because what you did was not really bright?
11. Suppose you study to become a teacher, scientist, or doctor and you fail. Do you think this would heppen
- _____ (a) because you did not work hard enough or
- _____ (b) because you needed some help, and other people didn't give it to you?
12. When you learn, something quickly in school is it usually
- _____ (a) because you paid close attention or
- _____ (b) because the teacher explained it clearly?

13. If a teacher says to you, "Your work is fine," is it
_____ (a) something teachers usually say to encourage pupils, or
_____ (b) because you did a good job?
14. When you find it hard to work arithmetic or math problems at school, is it
_____ (a) because you didn't study well enough before you tried them or
_____ (b) because the teacher gave problems that were too hard?
15. When you forget something you heard in class, is it
_____ (a) because the teacher did not explain it well, or
_____ (b) because you didn't try very hard to remember?
16. Suppose you were not very sure about the answer to a question your teacher asked you, but your answer turned out to be right. Is it likely to happen
_____ (a) because she wasn't as particular as usual or
_____ (b) because you gave the best answer you could think of?
17. When you read a story and remember most of it, is it usually
_____ (a) because you were interested in the story or
_____ (b) because the story was well written.
18. If your parents tell you that you are acting silly and not thinking clearly, is it more likely to be
_____ (a) because of something you did or
_____ (b) because they happen to be feeling cranky?

19. When you don't do well a test at school is it
_____ (a) because the test was especially hard or
_____ (b) because you did not study for it?
20. When you win at a game of cards or checkers, does it happen
_____ (a) because you play real well or
_____ (b) because the other person does not play well?
21. If people think you are bright or clever, is it
_____ (a) because they happen to like you or
_____ (b) because you usually act that way?
22. If a teacher didn't pass you to the next grade, would it probably be
_____ (a) because she "had it in for you" or
_____ (b) because your school work was not good enough?
23. Suppose you don't do as well as usual in a subject at school. Would this probably happen
_____ (a) because you weren't as careful as usual, or
_____ (b) because somebody bothered you and kept you from working?
24. If a boy or girl tells you that you are bright, is it usually
_____ (a) because you thought up a good idea or
_____ (b) because they like you?
25. Suppose you become a famous teacher, scientist or doctor. Do you think this would happen
_____ (a) because other people helped you when you needed it or
_____ (b) because you worked very hard?

26. Suppose your parents say you aren't doing well in your school work. Is it likely to happen more
- _____ (a) because your work isn't very good or
- _____ (b) because they are feeling cranky?
27. Suppose you are showing a friend how to play a game and he has trouble with it, would that happen
- _____ (a) because he wasn't able to understand how to play, or
- _____ (b) because you couldn't explain it well?
28. When you find it easy to work on math or arithmetic problems at school, is it usually
- _____ (a) because the teacher gave you especially easy problems or
- _____ (b) because you studied your book well before you tried them?
29. When you remember something you heard in class, is it usually
- _____ (a) because you tried hard to remember or
- _____ (b) because the teacher explained it well?
30. If you can't work a puzzle, is it more likely to happen
- _____ (a) because you are not especially good at working at puzzles, or
- _____ (b) because the instructions weren't written clearly enough?
31. If your parents tell you that you are bright or clever, is it more likely
- _____ (a) because they are feeling good or
- _____ (b) because something you did?

32. Suppose you are explaining how to play a game to a friend and he learns quickly. Would that happen more often

_____ (a) because you explained it well, or

_____ (b) because he was able to understand it?

33. Suppose you are not sure about the answer to a question your teacher asks you and the answer you give turns to be wrong. Is it likely to happen

_____ (a) because she was more particular than usual, or

_____ (b) because you answered too quickly?

34. If a teacher says to you, "Try to do better," would it be

_____ (a) because this is something she might say to get pupils to try harder or

_____ (b) because your work wasn't as good as usual?

APPENDIX IV : The P.P.Q. (English Version)

21
6. When _____ wanted me to do something _____
explained why.

- (a) Never
- (b) Only once a while
- (c) Sometimes
- (d) Usually
- (e) Almost always.

7. _____ nagged at me.

- (a) Never
- (b) Only once or twice a year
- (c) About once a month
- (d) About once a week
- (e) Almost every day.

8. When I did something _____ didn't like, I
knew exactly what to expect of _____.

- (a) Never
- (b) Only once in a while
- (c) Sometimes
- (d) Usually
- (e) Almost always

9. _____ punished me by not allowing me to be with
my friends.

- (a) Never
- (b) Only once or twice a year
- (c) About once a month
- (d) About once a week
- (e) Almost every day.

10. _____ slapped me.

- (a) Never
- (b) Only once or twice a year
- (c) About once a month
- (d) About once a week
- (e) Almost every day.

11. If I did something _____ didn't like _____
would act cold and unfriendly.

- (a) Never
- (b) Only once in a while
- (c) Sometimes
- (d) Often
- (e) Very often

12. _____ scolded and yelled at me.

- (a) Never
- (b) Only once or twice a year
- (c) About once a month
- (d) About once a week
- (e) Almost every day.

13. I know what _____ expected of me and how
_____ wanted me to behave.

- (a) Never
- (b) Only once in a while
- (c) Sometimes
- (d) Often
- (e) Very often

14. When I did something _____ didn't like _____
acted hurt and disappointed.

- (a) Never
- (b) Only once in a while
- (c) Sometimes
- (d) Often
- (e) Very often

15. _____ wouldn't let me go to many places
because something might happen to me.

- (a) Never
- (b) Only once in a while
- (c) Sometimes
- (d) Often
- (e) Very often

16. _____ helped me with my school work when I did not understand something.
(a) Never
(b) Only once or twice a year
(c) About once in a month
(d) About once a week
(e) Almost every day.
17. _____ punished me by trying to make me feel guilty and ashamed.
(a) Never
(b) Only once in a while
(c) Sometimes
(d) Often
(e) Very often
18. _____ insisted that I get particularly good marks in school.
(a) Never
(b) Only once in a while
(c) Sometimes
(d) Often
(e) Very often
19. _____ comforted and helped me when I had troubles.
(a) Never
(b) Only once in a while
(c) Sometimes
(d) Often
(e) Very often
20. _____ punished me by not letting me use my favourite things for a while.
(a) Never
(b) Only once or twice a year
(c) About once in a month
(d) About once in a week
(e) Almost every day.
21. When _____ punished me _____ explained why.
(a) Never
(b) Only once in a while
(c) Sometimes
(d) Often
(e) Very often

APPENDIX V(A) : Attribution Questionnaire (Hindi Version)

APPENDIX V(B) : Attribution Questionnaire (English Version)

ATTRIBUTION QUESTIONNAIRE

नोट: प्रश्नावली का उत्तर देते समय ध्यान रखें इसमें कोई भी उत्तर सही या गलत नहीं है हम केवल आपका मत जानना चाहते हैं।

निर्देश: आपने अभी जो कार्य किया उसमें आपने या तो जितना सोचा था या उससे अधिक गलतियाँ की। नीचे कुछ कारण दिये हुये हैं जिनके कारण ऐसा हुआ होगा। आपको यह बताना है कि नीचे दिये गये कारणों में से प्रत्येक कारण आप किस सीमा तक इस परिणाम के लिये जिम्मेदार (उत्तरदायी) मानते हैं। आप जिस कारण को जितना उत्तरदायी मानते हैं उसके अनुसार संख्या को गोल (○) घेर दीजिये :

(१) दुर्भाग्यवश आपको कठिन वाला पेपर मिला:

बहुत कम सीमा
तक उत्तरदायी

काफ़ी सीमा तक
उत्तरदायी



(२) कार्य बहुत कठिन था :

बहुत कम सीमा
तक उत्तरदायी

काफ़ी सीमा तक
उत्तरदायी



(३) आपने ध्यानपूर्वक मन लगा कर कार्य नहीं किया होगा:

बहुत कम सीमा
तक उत्तरदायी

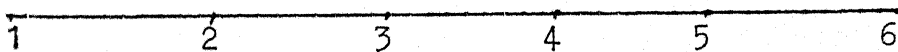
काफ़ी सीमा तक
उत्तरदायी



(४) आप कम बुद्धिमान हैं इसलिए आपने गलतियाँ की होंगी:

बहुत कम सीमा
तक उत्तरदायी

काफ़ी सीमा तक
उत्तरदायी



अन्य कारण:

ATTRIBUTION QUESTIONNAIRE

Note: While responding on the questionnaire remember that there is no right or wrong answer, we are interested in knowing your opinion.

Instructions: In the task which you just performed you either made as many mistakes as expected or more than that. Below given are certain reasons because of which it would have happened. You have to specify the extent to which the reasons given below are responsible for this outcome. Please encircle the number according to the degree to which you consider that cause responsible:

- (1) Unfortunately you received the paper with greater difficulty.

Least
Responsible

Most
Responsible



- (2) The task was very difficult.

Least
Responsible

Most
Responsible



- (3) You did not work with concentration.

Least
Responsible

Most
Responsible



- (4) You made more mistakes because you are not intelligent.

Least
Responsible

Most
Responsible



- (5) Other reasons:-